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Original Articles.

A YEAR'S WORK IN MINOR SURGICAL GYNECOLOGY AT THE KENSINGTON HOSPITAL FOR WOMEN.[1]

BY CHARLES P. NOBLE, M.D.

MINOR surgical gynecology, embracing the surgery of the pelvic floor, vagina, bladder, and uterus—excluding hysterectomy—has not received much attention at the hands of recent writers. This is partly because the attention of gynecologists has been devoted to the marvelous strides which have been made in abdominal surgery, and partly because this field of work is not so brilliant as that of abdominal surgery. It is true that minor gynecological surgery is not brilliant, but it is very important, and it seems to me that it is in some danger of being neglected by the surgeons of to-day. This fact has led me to report my last year's work in minor surgical gynecology at the Kensington Hospital for Women, and to make certain observations on the various operations named. The following operations have been done:

Removal of vaginal cyst (post cervical)	1
Clitoridectomy (nymphomania)	1
Excision of carcinomatous nodules (secondary after removal of breast)	3
Uterine polyps (removed)	2
Lipoma (removed)	1
True pelvic abscess (drained after exploratory section had excluded disease of appendages)	1
Atresia of vagina (divided)	1
" " vulva "	1
Cancer of cervix—curetting (death from uræmia)	1
Amputation of cervix—cancer, 1; procidentia, 2	3
Anterior colporrhaphy (oval)	1
" " (Stoltz)	2
Perineorrhaphy (Hegar's)	1
" (Emmet's)	17
Trachelorrhaphy	6
Dilatation and curetting	18
Total	60

One death occurred in a case of advanced carcinoma of the cervix, which was thoroughly curetted by Dr. Kelly. Death followed on the eighth day from "cancerous uræmia." This poor woman had been insane for some weeks—the insanity being due supposedly to absorption of septic matter from the decomposing cancer. The operation was done with the hope of relieving this, and also to get rid of the necrotic mass. The other operations in the report were done by myself. The technique employed was quite similar for all cases. The patient's bowels were well cleared out the day before the operation, and moved by enema the morning of the operation. In addition, the patient had a full bath and a sublimate vaginal douche. Operations were done under ether-anæsthesia in the dorsal position, with the Robb leg-holder and Kelly perineal pad in use. The vulvar region and vagina were well scrubbed with soap and water, the vulvar hair was shaved, and the parts were well douched with sublimate solution. In this way an aseptic field was secured; all operations were done under irrigation with boiled water, sponges not being used. This technique is a little troublesome, but the results secured amply compensate for the outlay of time.

I have made it an invariable rule to re examine all patients before beginning the operation. This can be

[1] Read at the Philadelphia County Medical Society, March 9, 1892.

done most thoroughly when the patient is anæsthetized. If the uterine appendages are found inflamed and adherent, any proposed operation upon the uterus is abandoned. I believe this to be the only safe rule of practice.

For sutures, silk, catgut, and silkworm-gut have been used. For general purposes I like silk; but it should not be used where the sutures cannot be removed in one or two weeks. Catgut I have found very useful for sutures having but little strain to bear, as, for instance, the upper sutures in perineal operations. Silkworm-gut has the advantage that it is non absorbent; hence it is to be preferred where sutures must be left in a long time, as, for instance, in the cervix, when the cervix and perineum are repaired at the same sitting. It has the disadvantage of being stiff, which property makes it somewhat hard to remove, and gives the patient some pain. After operations the vagina is carefully dried, a pencil of iodoform (25 grains), together with a strip of iodoform gauze, is introduced, the vulva is sprinkled with a powder of iodoform (1 part) and borac acid (7 parts), and then a cotton pad is placed over the vulva —held in place by a T-bandage. For perineal operations the urine is drawn for two days; after which the patient is allowed to urinate. The gauze is removed after forty-eight hours; after which a sublimate douche (1:2,000) is given once daily. The bowels are moved on the second day and regularly thereafter. An abundant soft diet is permitted. The external sutures in perineal operations are removed about the eighth day; the internal sutures at the end of the second week. When the cervix has been repaired at the same time, the cervical sutures are removed at the end of the third week or even later. One should err on the side of leaving the sutures in long rather than that of removing them early.

Patients having perineal operations are permitted to sit up in two weeks; those having a curetting, in three or four days; those having a trachelorrhaphy, in a week, etc.

The secret of success in plastic surgery is good asepsis, and careful, painstaking, and accurate denudation and suturing. I have never failed to secure good union, which has always been primary throughout, with two exceptions—one stitch-hole abscess and one small hemorrhage (hæmatoma).

Dilatation and Curetting.—Within the past ten years professional opinion concerning these operations has fluctuated widely. Before the antiseptic era, curetting was considered a dangerous operation. Its danger at that time I feel satisfied was due partly to lack of antiseptic measures, and partly to bad diagnosis. At that time our knowledge of the diagnosis of chronic salpingitis was very imperfect, and many accidents (peritonitis) resulted from operating on the uterus when the tubes contained pus or other septic fluid. Since the antiseptic era in the hands of men capable of making a diagnosis of uncomplicated disease of the uterus, and of excluding chronic pelvic inflammation, these operations have been done with impunity. Of late, the legitimacy of the operations has been questioned by Dr. Joseph Price, on the ground that many cases of salpingitis and pus tubes have come under his care in which dilatation or curetting has been done. This fact is no argument against the legitimacy of the operations, nor against the fact that, when properly done in uncomplicated cases, the operations are perfectly safe and free from danger.

Did the women seen by Dr. Price (and by others, including myself) have the tubal disease before the uterus was dilated or curetted? Were the operations done under rigid asepsis? I believe that blunders in diagnosis and blunders in asepsis should bear the blame in these most unfortunate cases, and not legitimate surgery. In my own hands no such untoward results have occurred. On the contrary, under the strict limitations laid down, my confidence in the value and safety of the operation increases as my experience grows.

Dysmenorrhœa.—Three cases of dysmenorrhœa, due to partial development of the cervix, with anteflexion, and characterized by "cramps" during the flow, were treated by dilatation. Dilatation in this class of cases has always given good results. The cause of the "cramps" is a poorly developed cervix with a narrow canal, whose caliber is further lessened by the anteflexion.

A broader experience has induced me to use the dilator for dysmenorrhœa much less frequently than formerly. I consider it absolutely contra-indicated if there is tubal inflammation, and believe that it is of little use in relieving pain, unless the latter is distinctly intermittent and cramp-like in character.

The pains accompanying menstruation due to inflammation of the uterine appendages, or of the uterus, or due to a depressed state of the blood, with pelvic neuralgias, are not benefited by dilatation, and in such cases it should not be done.

Endometritis.—Fifteen cases of uncomplicated endometritis have been treated by dilatation and curetting. Nine of these were cases of fungoid endometritis with resulting uterine hemorrhages. I believe that this procedure best meets the indications in all cases of uncomplicated *chronic* endometritis. By removing the thickened portion of diseased endometrium and providing a freer vent for the uterine secretions, most cases of endometritis can be cured promptly, and the remainder are much improved. The number of cases in which it is necessary to make intra-uterine applications is thus much reduced, and these women are saved the necessity of undergoing a prolonged course of painful intra-uterine treatment. By promptly curing women with chronic endometritis another important point is gained—the disease is cured before it spreads to the tubes.

The results in my hands have been most satisfactory in cases of fungoid endometritis, especially those of short duration, resulting from abortions. Cases of chronic endometritis with purulent leucorrhœa have been most intractable, and in these cases it has been necessary to make weekly applications to the endometrium (by means of the applicator) of pure carbolic acid, Churchill's tincture of iodine, or a saturated solution of chloride of zinc for some weeks *after* the curetting. I wish to call attention to the small number of cases of uncomplicated endometritis in this series. Omitting the fungoid cases, there were six out of one hundred and twenty-eight women admitted to the hospital. This is about the average in my practice.

In fungoid endometritis I have found the curette so valuable, and other methods of treatment (in marked cases) so futile, that I am unable to understand how those gentlemen who oppose the use of the curette treat these cases. The only other resort is electricity; but the curette will accomplish in a few minutes what it requires weeks or even months to accomplish by electricity.

The results obtained by the curette in uncomplicated endometritis are so good that of late, forgetting the teachings of past experience, certain operators have proposed to treat cases of endometritis complicated by chronic tubo-ovarian inflammation in the

same way. It seems to me that careful men cannot protest too strongly against such treatment. In the first place, the danger of setting up fresh salpingitis and peritonitis is acknowledged (except by the few) to be great; and in the second place, should the endometritis be cured (which is doubtful because of pelvic congestion kept up by the tubo-ovarian inflammation), the graver disease of the appendages remains. The wiser plan, if the appendages are diseased, is first to remove them, and then actively treat the endometritis; or if the appendages are but slightly diseased and do not require ablation, to treat the patient by applications of iodine to the vaginal vault, and the use of glycerine tampons, at the same time using every measure to improve the local conditions by general medication.

It happens not infrequently that when the inflamed uterine appendages are removed, an endometritis is left which causes the patient some annoyance. These cases are often reported by those hostile to modern surgery as showing that the abdominal section has failed to cure the patient. These gentlemen have a mental strabismus, and do not see that the section has accomplished the end aimed at, the ablation of the diseased uterine appendages. Whether this alone will cure the patient depends upon whether the particular patient has any other disease. If she has an endometritis, this must be cured; if anæmia, or indigestion, or malnutrition, these must be treated.

I wish to protest against the view that endometritis as a rule, causes much distress, except the annoyance of a leucorrhœa, unless it induces hemorrhage. Where women having endometritis suffer much pelvic pain, and are semi invalids, the cause of the pain or invalidism is to be sought elsewhere—in the uterine appendages, or in the vital organs, or blood state.

It is a narrow man who attributes all the symptoms complained of by women to disease of the pelvic organs, and who forgets that women have an unstable nervous system, easily influenced by morbid conditions of the general economy.

In discussing endometritis it should not be forgotten that other conditions besides endometritis can cause a discharge from the uterus. Whatever will cause congestion of the uterus will cause uterine discharge. For example, subinvolution, constipation, feeble heart, lazy habits, malnutrition as from phthisis, erotism, etc. Treatment addressed to the causative disorder will stop such uterine discharge. This class of cases calls for no treatment of the endometrium.

Stoltz's Anterior Colporrhaphy.—This operation has been done twice during the time covered by this report. It is specially adopted for cases of procidentia in which cystocele is a marked feature. The cases have been treated with the most gratifying success by amputating the cervix above the vaginal junction, doing Stoltz's operation on the anterior vaginal wall and Emmett's operation on the perineum, the combination of operations being done at one sitting. I have had but one failure in my experience. This was in the person of a woman having complete procidentia, whose tissues had undergone marked fatty degeneration.

Perineorrhaphy.—One Hegar's operation was done on a woman having a patulous introitus. Seventeen operations were done after the manner of Emmett for injuries to the pelvic floor, involving laceration of the levator ani muscle and loss of pelvic support.

It seems strange to me that men who are familiar with the anatomy of the pelvic floor, and with the nature of the injuries it sustains during labor, can differ so widely concerning the nature of the operation required to repair the injuries sustained. Not to consider the lacerations extending into the bowel, there are two general classes of lacerations of the pelvic floor.

1. Lacerations involving the vulvar commissure, and extending scarcely to the vagina, scarcely beyond the plane of the hymen. These are the insignificant lacerations, which at most give rise to a gaping *introitus vaginæ*, but which involve no appreciable loss of pelvic support. Such lacerations are median, and involve no very important muscular structures. The bulbo-cavernosus and the transversus perinei muscles may be divided, but the laceration does not extend far enough up the vagina to reach the levator ani. Usually it is indifferent whether such lacerations are closed or not. The result to be gained is scarcely sufficient to compensate a woman for submitting to a secondary operation. In my opinion, however, even such lacerations should have a primary perineorrhaphy. If a secondary operation is done, the Hegar operation best meets the indications. The flap-splitting method will answer, but it leaves an ugly fold of tissue at the orifice of the vagina.

2. Lacerations extending along the vagina, and involving more or less of the levator ani muscle or muscles and the deep fascia, according to the extent and depth of the lesion. Such tears, as a rule, not only involve the commissure of the vulva, as in class 1, but also extend up the vagina, and without exception extend up one or both sulci. They are never median. The tough pelvic fascia seems to deflect the laceration to one or other side. But whatever the explanation, it is a fact that deep, extensive lacerations do not extend up the middle line of the vagina, but up one or both sulci. Sometimes the injury is wholly in the vagina, and the commissure of the vulva remains intact. Hence these tears are Y-shaped when the commissure of the vulva is involved and the tear extends up both sulci. They are Y-shaped when the commissure is involved and the tear extends up one sulcus (one arm of the Y is not represented). And they are V-shaped when both sulci are involved and the commissure escapes (the leg of the Y is not represented). The principal tissues involved in the injury are the levator ani muscle or muscles and the deep fascia. The injury extends two or three inches from the plane of the skin perineum. As is well known, pelvic support depends upon the integrity of the levator ani muscles and the pelvic fasciæ; hence the loss of support resulting from the injury is in direct ratio to its extent. When the lesion is extensive, the bladder, bowel and uterus prolapse.

A very careful and somewhat extensive study of this subject from the clinical side has convinced me that the foregoing propositions represent the facts in the case, and are not theoretical. I believe that the reason certain gynecologists of prominence do not accept this pathology is because they do not see much of obstetrics, and they have not studied the nature of lacerations immediately after labor. Any one can convince himself of the truth of the foregoing statements by studying recent lacerations.

(For the sake of completeness, submucous laceration or over-stretching of the levator ani muscle may be called class 3.)

For the cases embraced under class 2, no operation will yield such results as the Emmett operation. The important lesions are in the sulci of the vagina, and can only be reached by denuding and suturing the sundered tissues in the sulci. As a means of narrowing the vagina it has the further advantage of making use of the natural folds of that canal. The

walls of the vagina fold upon themselves in such a way that the lines of contact in transverse sections make the letter H. The sulci of the posterior wall represent the lower half of the legs of the H. It will be noticed that the walls of the sulci lie naturally together, so that, if they are denuded and sutured, the parts come together surface to surface. There is a very positive advantage in securing strong union, in addition to the advantages of raising the posterior wall of the vagina against the anterior, and of making a new *mediate* attachment of the vagina to the levator ani muscles.

I need not dwell upon the advantages possessed by the operation in cases of well-marked rectocele, in which the sulci are very deep. In no other way can the rectocele be so well rolled into the vagina.

My experience with the operation embraces some fifty cases. The results have been uniformly good, with one exception—the case of procidentia already referred to.

The other operations which are recommended for the cure of this class of lacerations are the median operation of Hegar (or some slight modification of it) and the flap-splitting operation of Tait.

Median operations are based upon the theory that the injury sustained is rupture of the perineal body, and that the operation is to restore this body. Time will not permit me to discuss this question *in extenso*. The nature of the injuries have already been considered, and they are lateral, not median. The old theory of the nature and function of the perineal body has been disproved by Emmett, whose views I accept; hence it appears to me that the indifferent results secured by median operations is due to the fact that they are based on a false conception of the anatomy and of the injuries of the pelvic floor.

The advantages of the flap-splitting method are even less than those of the method of Hegar. In the rules laid down for performing the flap-splitting operation, we are told not to make the incisions deeper than a half-inch (from the surface of the skin perineum); that is to say, lesions situated further up the vagina than one-half an inch from the skin surface of the perineum are not affected by this operation. Inasmuch as the entire levator ani muscle lies above this plane, it is evident that the Tait operation is worthless in the class of lacerations under consideration. The Tait operation accomplishes just about what the old Baker Brown episiorrhaphy did—it narrows the orifice of the vulva.

What I have said about this operation is based upon the anatomical considerations involved and upon the results obtained by a prominent professor in this city. At least twelve patients who have been operated upon by him have been seen by me at the clinic for diseases of women at the Northern Dispensary. All had a narrow vulvar orifice, and all had more or less rectocele, with deficient pelvic support, and the symptoms complained of before operation. My personal experience embraces one case, which was sufficient to demonstrate to me the lack of anatomical basis in this operation.

Trachelorrhaphy.—Trachelorrhaphy was done six times. Experience adds to my appreciation of the value of this operation in appropriate cases. I am satisfied that the dangers and failures to achieve good attributed to it by some operators depend upon poor judgment in the selection of cases.

Either insignificant lacerations are repaired, or lacerations complicated by inflammation of the uterine appendages are operated upon. In the first case the laceration caused no symptoms, and its repair relieved none; in the second case, if the patient escaped a peritonitis as the direct result of the operation, she continued to suffer from the morbid condition of the appendages.

A SUCCESSFUL CASE OF LATERAL ANASTOMOSIS OF THE ILEUM FOR MALIGNANT STRICTURE, WITH A DISCUSSION OF THE OPERATIVE TECHNIQUE.[1]

By WILLIAM EASTERLY ASHTON, M.D.,
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I SAW the patient, Mrs. E. C., for the first time on November 28, 1891, in consultation with her physician, Dr. Thomas Curry, of this city. She gave the following history: Twenty-eight years of age, and married nine years. She had had five children at term and two miscarriages. Two years ago, when five months pregnant, she fell from the window of the second story of her house, striking her back and occiput upon the pavement below. This accident resulted in a slight uterine hemorrhage, but the pregnancy was not interrupted, and she went to full term. Shortly afterward, however, she began to suffer from epileptic attacks. These continued up to eighteen months ago, since which time she has been entirely free from them. On August 20, 1891, she was delivered of a hydrocephalic child. The labor was natural, and was not followed by any puerperal complications. At this time she was in excellent health and weighed one hundred and eighty-five pounds. Shortly after getting up, however, her health began to rapidly fail. She began to have frequent attacks of violent abdominal and pelvic pain, preceded by the movement of gas in the intestines. Her abdomen was always greatly distended, which added to her discomfort. There was obstinate constipation, and the bowel movements could only be induced by purgatives and rectal injections. These movements were always small in amount, and caused a great increase in the abdominal pain and tenderness. She had constant nausea and vomiting, and the abdominal distention was increased after taking food. She continued to lose weight and strength, and suffered from night-sweats. Seven weeks after her confinement her menstruation appeared, but it has not recurred since. Her weight at the time I first saw her had been reduced to one hundred and fifteen pounds.

On examination, I found the abdomen distended below the umbilicus. It had the appearance of a round tumor, filling up the lower part of the abdominal cavity. The abdomen above the umbilicus, although distended, was not greatly so. Percussion gave a tympanitic note over the entire abdomen. No tumor could be felt on palpitation. Indigation gave negative results. As I was unable to demonstrate by my examination the existence of a new growth, I looked upon the cause of the chronic obstruction as being due to intestinal adhesions, the result of a localized peritonitis. Cœliotomy was, therefore, urged, and consented to by the patient.

Operation.—Cœliotomy was performed at the Polyclinic Hospital on November 30, 1891, Dr. J. H. Gibbon, senior resident of the hospital, and Mr. Louis J. Borsch assisting in the operation.

Upon opening the abdomen, which was done in the median line below the umbilicus, the omentum was found adherent to and blocking up the entrance

[1] Read at the Philadelphia County Medical Society, March 9, 1892.

of the pelvic cavity. After freeing these adhesions, the pelvis was examined, and its organs found to be in a normal condition. The small intestines were greatly distended and adherent to each other at several points. These were then carefully separated. Up to this stage of the operation the conditions found seemed to confirm the diagnosis of an old peritonitis, resulting in intestinal adhesion. The existence, however, of the distention indicated a stricture at some point in the bowel, due either to additional adhesions or a new growth. With this view of the case in mind, the examination was carried still further, and resulted in finding a large cancerous mass situated in the ileum, and involving the mesenteric glands. At this point the stenosis of the gut was so marked that it was with difficulty the gas could be pushed through it. As the cancerous involvement was extensive, any attempt at resection would have dangerously prolonged the operation without giving the patient the slightest chance of permanent relief. It was therefore decided to perform a simple lateral anastomosis without resection. Ten inches of the ileum on each side of the stricture were stripped of their contents, and a ligature of soft rubber tubing passed through the mesentery and tied around the gut at each end, to prevent the regurgitation of the intestinal fluids. The field of operation was then protected by packing carefully with gauze pads. Two openings into the intestine were then made, one upon each side of the stricture, and both about three inches distant. The excluded portion of the gut was then thoroughly irrigated through these openings. In making the anastomotic communication I used the solid rubber rings, and, to add further to the security of the parts, "the right-angle continuous suture" was carried entirely around the anastomosis. No irrigation of the abdominal cavity was employed, and the abdomen was closed without drainage. The entire operation lasted twenty-five minutes, and the patient was placed in bed with a good pulse and normal temperature.

After History.—The patient made an uninterrupted recovery, and was discharged from the hospital in twenty-eight days. The temperature was normal throughout her convalescence, except on the day following operation, when it reached 100.4° F.; the pulse on the same day was 100 per minute—the highest number of beats during her stay at the hospital. A hypodermic injection of morphine and atropine was given immediately after the operation, and repeated on the second and third day, as the patient was somewhat restless. The patient for the first three days was nourished with nutrient enemas, and then food was given by the stomach. The bowels were freely moved on the fourth day, following the administration of calomel. There was no tendency to constipation at any time. The rings were passed on the eighteenth day. They were discharged whole, their segments not having become separated.

Immediately after operation the abdominal pain and distention entirely disappeared and remained absent throughout her stay at the hospital. The patient vomited only once, and then on the twelfth day following the administration of salts. At the time of her discharge she had gained decidedly in weight and strength, and was free from all her previous symptoms.

The patient was seen by Dr. Curry on the 24th of last February, three months after the operation. She had improved steadily in health; her bowels had moved naturally every day; there had been no vomiting, and the abdominal pain and distention had not returned. She had gained thirty-five pounds in weight since the operation. On the 10th of February her menses returned, after an absence of four months.

I shall pass at once to the discussion of some points of importance in the technique of lateral anastomosis.

The Rings Employed.—Those used in this operation were made of solid rubber cording, and were devised by Dr. Baldy and myself, and employed by us in our experiments upon dogs. The advantages of these rings have been fully discussed in our paper upon "Experimental Studies in Intestinal Surgery,"[1] and I shall not refer to them here. Recently I have modified these approximation rings, doing away, I believe, with the only real objection that could be advanced against them, namely, that they allowed too small an opening between the intestines. As I now make them they are oval in shape instead of being round, as they were originally. This is accomplished by means of a strand of catgut fastened across the ring at each end. They have six ligatures attached, in place of four; and the segments of which the ring is composed, as well as the threads, are held by means of catgut. With a ring of this kind an anastomotic opening may be made in the intestine, oval in shape, and having the following dimensions: 1¾ inches long, ½ of an inch wide at the center, and ¼ of an inch at either end.

Additional Sutures About the Anastomosis.—It is now generally held by operators that additional sutures about the seat of operation give greater security to the parts and lessen materially the dangers of leaking. For this purpose I employ the "right-angle continuous suture" of Cushing, using a simple knot for its beginning and ending, as advised by Keen, instead of the original complicated method. This suture may be introduced with great rapidity, and holds the serous surfaces together with accuracy. It is good practice to carry this suture completely around the anastomosis in order to be sure that there will be no leaking at any point.

Cleanliness During the Operation.—It is impossible to do an ideal aseptic operation where the intestines have been opened. If, however, the parts be kept carefully cleaned, there will be practically but little danger of septic infection following. Those of us who do abdominal work must have frequently observed how quickly a blood-clot or other foreign material becomes adherent to the serous surfaces of the intestines, and with what comparative difficulty it is removed. No amount of subsequent irrigation will suffice to detach some of these adherent particles, and it is necessary to pick them off with the fingers. How easily, under these circumstances, a small particle of septic material may be overlooked and become the center of an infection can be readily understood. To prevent the danger of this source of infection the seat of operation should be frequently douched, during the operation, with warm sterilized water. This, I believe, to be a most important point in the technique of these cases. It certainly can do no harm, and it not only keeps the parts clean, but it at the same time lessens the dangers of shock by keeping the intestines warm.

Rapidity in Operation.—In no field of surgery is time as important a factor for success as in abdominal operations. A surgeon may have the most profound knowledge of the subject, he may deal with all the accidents and complications which may arise with rare judgment and decision, and yet his results will

[1] Proceedings of the County Medical Society (Philadelphia), vol. xii., 1891.

be bad unless his operations are rapidly performed. Good results in abdominal surgery mean rapid work—that is, no shock, no ether-saturation. Park,[1] in discussing those sources of septic infection not concerned in the wound itself, throws out a most valuable hint bearing upon this subject. He says: "There is good reason to think that chloroform and ether administered for some time may produce such changes in the blood and tissues that vital processes of repair, cell-resistance, and chemotaxis may be so far interfered with as to facilitate subsequent infection."

Feeding After Operation.—The tendency of most surgeons to delay giving food by the mouth, and their reliance upon rectal feeding are, I am convinced, mistakes in the early after-treatment of cases of anastomosis. If we employ, in our operations, rings which closely approximate the surfaces of the viscera and use additional sutures around the seat of anastomosis there can be no reason to doubt the security of the parts. It seems improbable, under these conditions that the natural peristaltic action of the intestines would be sufficient to cause leakage. To throw light upon the question of early feeding after intestinal anastomosis, I shall refer to the following cases of gastro-enterostomy. Brookhouse and Taylor[2] report seven cases, with three recoveries and four deaths. In the cases which recovered, feeding by the mouth was begun on the second day. They considered early feeding as a most important factor in their successful cases. Page[3] reported a series of thirty-six cases with fifteen deaths, which were in most instances due to exhaustion. Beaston[4] reports two cases of very great interest as bearing upon the necessity for early feeding by the mouth. The first case did well immediately after the operation, but died on the fourth day from asthenia; food and stimulants were not given by the mouth until a few hours before death. The second case was extremely weak and exhausted at the time of operation, but, nevertheless, made a good recovery. This patient was given 30 drops of brandy every hour by the mouth as soon as he came out of ether, and next morning feeding by the stomach was begun. In his remarks upon these cases he says: "Do not place too much reliance upon rectal feeding. Food in small quantities should be given early by the mouth, for in this way only can the tendency of death from asthenia be successfully combatted." Jessett,[5] in speaking of the report of seven cases with two deaths, one of which was on the sixth day and the other on the seventh, both being due to exhaustion, says: "Both would have recovered if fed earlier."

There can be no doubt that exhaustion is the cause of death in a large number of these cases, as well as in anastomotic operations in other portions of the intestinal tract, and it is impossible, with rectal feeding alone, to prevent the fatal issue. In those cases which are seen early by the surgeon and are not exhausted, the question of early feeding by the mouth is not of first importance. On the other hand, however, cases which are weakened by their disease should be given food and stimulants by the stomach at the earliest possible moment after operation.

Closure of the Anastomotic Opening.—One of the gravest questions in intestinal surgery is the danger of subsequent closure of the artificial communication. This question cannot be settled until we have examined the seat of operation in a large number of cases which have recovered from the operation, but who have died subsequently at various periods of time. Although, as yet, but little has been done in this direction, still there have been a few such examinations made which may be referred to with advantage. Larkin[1] reported the results of a post-mortem examination upon a patient of his own who died five months after he had performed a gastro-enterostomy for malignant disease. He found upon filling the stomach with water that it passed into the duodenum through the pylorus, but would not pass into the intestine through the artificial communication. After opening the stomach he failed to detect any trace of the anastomosis. He then opened that portion of the jejunum which had been attached to the stomach, and was able, with a fine probe, to pass into the latter. The malignant disease had not involved the seat of operation. Jessett[2] lost a case on the fifth day after performing a gastro-enterostomy, and found, upon post-mortem examination, that the artificial opening was quite patent and healthy, and that the bone plates were nearly digested. Sainsbury[3] lost a case on the second day after performing a gastro enterostomy. The examination of the stomach after death showed a closure of the opening. He says: "The opening into the jejunum was patent when probed by the finger; but that there was an impediment, which must have been valve-like, is proved by the distended stomach, and the fact that water injected into the stomach before dissection did not escape into the jejunum." In this case rings or plates were not used, the anastomosis being made by a double row of sutures. Beaston[4] reports two cases upon whom he made post-mortem examinations following gastro-enterostomy. One of these patients died on the fourth day following operation. He found the bone plates "greatly acted on by the digestive fluids, being reduced to the thickness of the thumb-nail, and broken up into small pieces both in the stomach and bowel. The knots of the uppermost lateral threads were plainly visible, owing to the serous surfaces having fallen apart, probably on losing the support of the bone plates." The artificial opening, he found, would admit the forefinger. The second case died in four weeks after section from acute lung trouble. The artificial opening was found to be oval in shape, with smooth and regular borders, and barely admitting the index finger. Keen,[5] in referring to a case operated upon by Dr. Abbe, in which a lateral anastomosis was made, says: "The opening was large, and seemed ample. The patient died some months later, and it was found that the opening had narrowed and contracted, so that ultimately there would have been complete obstruction."

In all of the cases just mentioned the incisions into the intestine and stomach were ample, measuring from one inch to one inch and a half in length. With the exception of Dr. Abbe's case, the bone plates were used in all of them.

There are several factors concerned in causing a narrowing of the artificial communication following lateral anastomosis.

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[1] "Wound Infection," etc., *American Journal of the Med. Sciences*, November, 1891.

[2] *London Lancet*, 1891, vol. i, p. 718.

[3] *London Lancet*, 1889, vol. ii.

[4] *London Lancet*, 1890, vol. ii, p. 761.

[5] *London Lancet*, 1890, vol. ii, p. 68.

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[1] London *Lancet*, 1891, vol. ii.

[2] London *Lancet*, 1890, vol. ii., p. 68.

[3] London *Lancet*, 1891, vol. ii., pp. 18–20.

[4] London *Lancet*, 1890, vol. ii., pp. 761–764.

[5] Proceedings Phila. County Med. Soc., 1891, vol. xii., p. 93.

1. The natural tendency of the tissues themselves to retract;

2. The contraction of the cicatrix following the healing of the incision;

3. The direct union of a part of the incision due to the immediate contact of its edges; and,

4. The opening into the bowel not being sufficiently large or of a proper shape.

The first of these causes cannot be avoided, as contractility and retractility are inherent properties of these structures. To prevent the contraction of the cicatricial tissue, Jessett[1] and Clarke[2] advise sewing together by a continuous suture, either of silk or catgut, the cut edges of the serous and mucous coats of the incised viscera. This brings the raw surfaces together, and is followed by direct union—an important fact, as it does away, to a great extent, with the formation of a cicatrix. This method of dealing with the edges of the incision will also prevent the danger of union from direct contact. Direct union of the cut edges of the bowel, as a cause of closure of the opening has, I believe, been overlooked by surgeons. Its importance, however, can hardly be questioned. For instance, the case of Larkins, quoted in this paper, goes a long way toward the support of this theory. For how else could we explain the fact that five months after section the opening only admitted a fine probe, unless we admit that in the beginning the edges became in part united. Again, Mr. Larkins performed a jejunostomy upon this patient nine weeks after the gastro enterostomy, on account of symptoms of closure of the artificial opening, and she was then kept alive by feeding directly into the jejunum. It is hardly likely that a large incision in nine weeks could become closed by the retraction of tissues and the contraction of the cicatrix alone. Furthermore, Beaston's two cases both point in the same direction—one dying on the fourth day, and the opening only admitting the forefinger, while the other barely admitting the index finger, at the end of one month. In all of these cases long incisions were made, and their rapid narrowing certainly teaches us a lesson. I do not for one moment wish to be understood as stating that direct union of the edges is the only factor in the case, but I do wish to emphasize its importance as a cause. Dr. Keen[3] has made a suggestion of great practical value in the technique of lateral anastomosis. He advises, instead of making a simple slit, to pinch up the bowel and remove an oval piece. This plan, he believes, would lessen the danger of contraction taking place. While I do not believe that this suggestion would in any way lessen the amount of contraction, I do believe that it would, by lessening the danger of direct union of the cut edges, prevent to a great extent the tendency to closure. Another point of importance is, as suggested by Jessett, to pass the lateral sutures of the ring as close to the edges of the opening as is consistent with safety. In this way the edges of the incision are kept wide apart. The length of the incision for an anastomosis should be from one and a half to one and three-quarters of an inch. An opening of this size, made oval in shape and having its mucous and serous edges united by a continuous suture, offers, I believe, the best chance of remaining permanently patent.

My experience has been that it is extremely difficult to cut out an oval piece of gut with scissors, as the opening is apt to be irregular or larger than we desire. I saw a well-known operator make this mistake, and he was obliged to narrow the opening by stitching it across with catgut. To overcome this difficulty I have devised a steel punch for the purpose. With this instrument we are able to make the opening of a definite size and its borders clean and sharp—factors of great importance. The incision is oval in shape, one and three-quarters of an inch long, one-half of an inch wide at its center, and one-quarter of an inch across at each end. By having the ends of the opening abrupt instead of tapering, there is less danger of direct union.

In conclusion, I desire to call attention to the following points:

1. The necessity of frequently douching the seat of operation with warm sterilized water to prevent the dangers of infection and shock.

2. That rapidity in operating is of great importance for success.

3. That early feeding by the mouth should be employed in all cases, especially in those which are weak and exhausted.

4. That early feeding by the stomach does not add to the dangers of leaking, as the parts are perfectly secure, if proper rings and additional sutures are employed.

5. That an important factor in causing subsequent closure of the anastomotic opening is a direct union between the edges of the incision.

6. That the danger of subsequent closure of the artificial communication is materially lessened by using a steel punch in making the opening, by stitching the edges of the serous and mucous coats of the bowel together, by placing the lateral sutures of the ring as close as possible to the margins of the incision, and lastly by making the anastomotic opening sufficiently long and of an oval shape.

DISCUSSION.

DR. J. M. BARTON: I agree with what Dr. Ashton has said in almost every particular. There are one or two points, however, to which I would like to call attention.

The doctor has spoken of the importance of keeping the abdomen open for the shortest possible time during an operation. I fully agree with him in this, and in my own abdominal operations I often sacrifice something to secure brevity of operation.

To make the operation as short as possible it would be very convenient for us to know, before opening the abdomen, exactly what we have to do. With our present knowledge this is impossible; but the history, even now, will often throw some light on the nature and seat of the obstruction.

Under all circumstances, the history in each reported case ought to be carefully recorded, not omitting apparently unimportant details, so that in the future, in similar cases, the diagnosis may be fairly accurate before surgical interference.

The vomiting in this case, unaccompanied by any tenesmus, was rather unusual. Where the obstruction is so low, tenesmus is more apt to be a permanent symptom than vomiting. The rapid emaciation would point to malignant disease. The sweating also would be suggestive of a far-advanced malignant growth or encysted pus.

I fully agree that the feeding should be begun early. In my stomach cases, where the danger of giving food early is greater than in intestinal injuries, I have found that where I was compelled by the condition of the patient to give food at once, it was

[1] *Brit. Med. Journ.*, Lond., 1891, vol. i. p. 1377.

[2] *Brit Med. Journ.*, Lond., 1891, vol. i. p., 798.

[3] Proceedings Phila. County Med. Soc., 1891, vol. xii. p. 93.

well borne. Examining the literature of the subject, I found that the cases that were fed early did not seem to suffer thereby. Where the operation is some distance from the stomach, there is no reason why food that should be absorbed by the stomach should not be used at once.

The doctor has suggested that the narrowing of the opening may possibly be due to immediate union. In the history of the cases that were examined a few days after operation it does not appear that the opening was materially contracted, while in those examined some months after operation it was found firmly contracted. Where the operation is performed for non-malignant disease, and the patient is expected to live for some time, this contraction of the opening is of the utmost importance. I doubt whether the removal of an oval piece will prevent it. I am not prepared to make any suggestions, but this is one of the difficulties which I fear we shall find trouble in overcoming.

DR. B. T. SHIMWELL: Reference has been made to the use of sutures around the point of anastomosis. I have had considerable experience experimentally with operations on the bowels, and I find that the moment you interfere with the bowel paralysis occurs. In the paralyzed portion of the bowel no gas or fecal matter will enter. I, therefore, cannot see the necessity for sutures. When perfect coaptation with the rings is made one or two additional sutures is all that is needed, and I cannot understand why we should spend time in putting in these extra sutures, for it requires some time for the bowel to regain its normal tone. If the sutures are well applied and well tied you have close coaptation, and adhesion is so rapid that there is firm union by the time the tone of the bowel is regained.

DR. JOSEPH HOFFMAN: I have often heard those gentlemen who do anastomosis talk about paralysis of the bowel as a necessary sequelæ to interference with the intestine. In ordinary abdominal surgery, where adhesions to the bowels are often extensive, we do not get paralysis even when we had to stitch down to the mucous coat. I have seen cases where it was necessary to stitch up six or eight inches of the bowel down to the mucous coat, and the patient has recovered without paralysis of the bowel. I should like to know what the interference is which is supposed always to cause paralysis of the bowel.

Dr. J. PRICE: This matter of paralysis is an interesting one, and I am inclined to ask the same question that Dr. Hoffman asked. Paresis of the bowel requires something more than local interference. If simple anastomosis with a few sutures is responsible for the paresis, it is surprising that we do not have this condition in those extensive lesions of the bowel which we often have to deal with in suppurative and extensive disease. We often have to separate many inches of the bowel, and often have to stitch up lesions, but we do not see the least paresis. There is no perceptible distention. I am therefore surprised to hear gentlemen speak of paresis of the bowel following a few fortifying stitches in resection or in anastomotic work. It never occurred in my work, and I no longer look for it if the cases have been carefully prepared.

There is just one point in connection with anastomosis—not that I wish to criticise enthusiastic investigators or experimenters, but I desire to call attention to one very important point in intestinal surgery. If you can possibly get along without resection or anastomosis, always do so. You will find that men like Martin, Lawson Tait, Bantock, and Thornton make a resection or an anastomosis only exceptionally. Some years ago I did more resection and anastomosis than I do at present. I constantly finish an operation with the bowel with a lumen not larger than a crayon. I do not hesitate to reduce the bowel in its normal axis. I have never had any obstruction follow anastomosis. The results have been most satisfactory, and some of the cases are of three or four years' standing. I might allude to one case: Last summer I operated upon a woman who was said to have rheumatism of the ovary. Her pelvis was simply full. It contained all the pus and viscera that you could get into it. One of the abscesses had perforated, causing a mesentery abscess, which had perforated the bowel at two points, the two openings being four inches apart. The portion of the bowel between the opening was quite gangrenous. There I was driven to resection and took out six inches of bowel and V-shaped a portion of mesentery. I found that the mesentery was too thick for invertion, and I therefore stitched the bowel carefully, and six inches above the resection made a lateral anastomosis, cutting out diamond-shaped pieces of bowel. This woman never had a bad symptom. She passed flatus in twenty-four hours. There was enormous distention at the band of the resection. She made a perfect recovery, and is now doing her domestic work.

DR. M. PRICE: I think that the operation of anastomosis can be materially shortened by using Mrs. Supplee's sewing-machine needle, which I have suggested for passing the sutures. In this way the six sutures can be passed in a minute and a half. It obviates the entanglement of the sutures, which is apt to occur when the needles are threaded before the operation, and does away with the time used in threading them during the operation.

I congratulate Dr. Ashton on the recovery of the patient. I think that these are the most serious operations that we are called upon to do. In most cases the disease has already gone so far that resection is out of the question. By this operation he has unquestionably lengthened that woman's days and probably made her death much more comfortable. Some years ago I resected some six inches of the colon for epithelioma. The woman is still perfectly comfortable, and I have no doubt that her life has been prolonged several years. There is no doubt that if the operation is done by a man familiar with the work, 95 per cent. of recoveries can be counted on. Suture of the intestine is one of the safest procedures in surgery.

I think that Dr. Shimwell is probably wrong in regard to paresis. I think we are justified in using every precaution, and the introduction of the ring should be supplemented by a whipped suture and reinforced over all by a Lembert suture. I have no hesitation in saying that the operation is justifiable in cancer and is the only one left for us to do.

DR. ASHTON: While an early exact diagnosis is of importance, yet it is impossible in the large proportion of cases to make it. Even if we do not make an exact diagnosis, the opening of the abdomen causes very little harm if done as an exploratory incision.

In regard to the closure of the opening, I would say that some of these cases were examined as early as three or four days after operation. I cannot understand how an incision which was one and a half inches in length should in three or four days become so small that it would admit only the index finger, unless there had been primary contact and union.

I cannot agree with Dr. Shimwell in reference to intestinal paresis. I have never seen the condition follow

even extensive injuries of the intestines. There is more shock to the bowel in severe injuries to the intestines in some pelvic cases than in anastomosis. I agree with Dr. Joseph Price that we should not make an anastomosis if we could possibly avoid it. I never hesitate to narrow the caliber of the bowel provided I do it in the direction of its long axis.

A SCIENTIFIC CURE FOR HERNIA.[1]

By BENJAMIN T. SHIMWELL, M.D.,
Lecturer on Surgery in the Medico Chirurgical College.

ALL methods devised for the radical cure of hernia seek to reach their object by obliteration of the canal, and by this plan to retain the protruding gut. This is the treatment of effect, not of cause.

While fully recognizing the comparative frequency of this trouble, we must not overlook the fact that it is in the minority. As we are all subject to the same exciting causes, we should look for some anatomical reason that will explain its occurrence and non-occurrence, and why after operation, where fibrous tissue in apparent quantity existed, return was possible. There must be more than the production, or rather reproduction, of a canal from the abdomen to the scrotum to account for it.

The first thing, then, to consider is not the inguinal rings or canal, but the intestines, the prime factor in the case.

The intestines are not a tube lying perfectly free in the abdominal cavity to be pushed here or there, making pressure at this or that point. If they were attached but to the pyloric end of the stomach and to the anus, then it could readily be seen how intra-abdominal pressure could possibly rupture any weakened point in the belly wall, with consequent protrusion of the gut. Instead of being so arranged, their position and action are limited by the folding around them of the peritoneum forming the mesentery.

Careful examination of the body in the dead-room fixes a normal relative position for this limiting membrane. Its point of attachment to the parietes begins to the left of the second lumbar vertebra. Its insertion then follows a line obliquely downward and to the right, to attach itself on the right illiac fossa. Its average length is eight inches; an increase above this is an abnormal state, and on this increase in length depends the production of hernia. The examination of numbers of bodies has proved, beyond cavil, that when a normal condition of the mesentery exists, it is impossible to drag the gut into the inguinal or femoral rings.

Is it scientific to say it is chance that prevents the whole human race from having hernia? Also to lay it to the firmness of attachments of the opposing surfaces of the inguinal canal, or the structures that cover a present hernia? The pushing forward of the superimposing layers of tissue and separation of the obliterated canal speak ill for its preventive power. If they are preventive, then the sudden rupture would give us more serious consequences in primary protrusion than experience shows. The canal does not show the after-conditions that follow usually from tearing, which would be excessively marked here if strong union had taken place. Neither subjective nor objective symptoms are present. It is coaptation, not union with firm tissue formation.

It is clear to my mind that the normal length of the mesentery is the preventive factor in the non-production of hernia. If not so, then no one would escape. The exigencies of life and our surrounding conditions are such that all of us at times are subjected to violent strains, giving rise to intra-abdominal pressure sufficient to rupture the internal openings, and to allow the gut to enter the canal.

If these assertions are true, then any operation which has been suggested does not prevent, but modifies. Therefore, any procedure seeking to prevent hernia by obliteration of the sac does not cure. The possibility of return exists.

What is the rational treatment? The opening of the abdomen and shortening of the mesentery. The width of the mesentery does not increase in adult life, but the length is liable to.

The opening of the abdomen and shortening of the mesentery may be objected to on the ground of possible risks. The safety of the operation of abdominal section is settled. The shortening of the mesentery offers no objections. It may be said that the blood-supply of the intestines may be interfered with. Careful experiments show the reverse.

Further, to prove that peritoneal inflammatory changes do not affect the blood-supply, is instanced in the omentum after diffuse peritonitis. Operations during the acute stage and post-mortems have shown me conclusively the possibility of contraction occurring without strangulation. In every case of acute peritonitis, unless adhesions have taken place, or, in fact, any case where the omentum has been much handled, we always find it drawn up to its gastro-duodenal attachment as a knotted mass. Still its vitality is maintained. Also, the invaginated mesentery into the divided bowel, in the operation of intestinal anastomosis, does not lose its vitality by contraction and inflammation. Here there is not only change by contraction due to the invagination, but also thickening from the inflammatory products thrown in and about its attachment. That this portion of the mesentery still supplies the bowel with blood is proven by the number of experiments I made, to show that divisions of the mesentery at the point of invagination caused gangrene. This proves that though changed in its structure pathologically, it does not interfere with its nutritive function as a carrier of blood.

It is understood that the value of an operation lies as much in its freedom from risks as in its ability to maintain its advantages when successful. The freedom from risk has been one of the so-called advantages claimed for the radical cure suggested. Can this be truly said of these methods? It is not always in the province of any operator to say, when the operation is finished, that he has not divided the spermatic duct. This is not recognized in unilateral operations, providing the other organ and duct is viable, but if not, or if in any subsequent time inflammatory change takes place, it is plainly seen the disadvantages that would arise. There is also the possible atrophy of the testicle from injury to its nerve-supply. Then, again, sharp attacks of peritonitis have occurred with consequent changes. There is a law of serous cavities that is definite: "Any inflammation, unless limited by adhesive contact, is diffused over the whole surface." This will hold as good here as in an operation done through section.

The longest part of the mesentery is usually confined to about five feet of the bowel included in a space beginning at a point six feet from the duodenum. If this is above the average length it is apt to hang into the pelvis, and is, in all probability, the portion protruded. It is but reasonable to suppose it

[1] Read at the Philadelphia County Medical Society, March 9, 1892.

is the same loop that is recurrent in its extrusion. There would be no difficulty in locating this portion, as the hernia would be present.

The shortening is done by folding the mesentery over on itself, and holding in this position by interrupted sutures. The intestine can be delivered, folded, sutured, and then replaced, and successive portions so operated upon. This is a step that of necessity requires expertness in handling the intestine that is only got by practice. The delicacy of the mesenteric tissue is understood. The union of the attached surfaces is rapid, and having been so shortened, there is no possibility of relengthening. Experiments, operations, and post-mortems in cases which had peritonitis show persistent shortening of the mesentery, the intestines being drawn nearer the spine.

The operation can be done perfectly aseptic, obviating risks. The bowel is not injured. It is done quickly, closure is made, and the patient out of bed in a few days.

DISCUSSION.

DR. JOSEPH HOFFMAN: Dr. Shimwell's suggestion can certainly claim the merit of being new, but any procedure which strives to cure hernia by it must fail. If the portion of bowel that presented was always the same, the procedure might be logical. It is, however, founded upon a false conception of the condition present. These conditions probably do not obtain in the greatest number of cases, and consequently the methods cannot be really a cure for the condition. Other things besides the bowel may constitute the hernia. In woman, the ovary may be present. The appendix may get into the ring, and shortening of the mesentery will hardly cure that. Further than this, the omentum may constitute hernia. This is a prolific cause of hernia. It is probably at the bottom of most hernias primarily, and in many cases it precedes the bowel. We often find nothing in the ring. Strangulation has occurred and the gut slipped back, and the strangulation is back of the ring.

So far as considering shortening of the mesentery as a cure for hernia, we must understand what we mean by cure. Those who have done the most radical operations for hernia are not bold enough to say that they have cured a case—that is to say, so cured it that it will not come back. It cannot be held that such an operation will cure the predisposition for lengthening of the mesentery. So far as shortening of this tissue by inflammation is concerned, that is entirely theoretical. We cannot say that because the mesentery is thickened, it is shortened. The suggestion, while it has apparently a foundation in fact, must be taken entirely as experimental, and experimental in the line that it is not likely to be followed by practical results.

DR. GEORGE E. SHOEMAKER: It is easy to decry anything which is unusual, yet every method must stand on its own merits. No consideration of this subject is complete which ignores the congenital defects of the ring, since these are at the bottom of many hernias. We find congenital hernia in the very young. Later in life the rings may be too large and weak from congenital defect, although no hernia is present, but a strain is suddenly thrown upon the parts and a hernia is produced. Such a shortening of the mesentery as would draw the intestine away from the abdominal wall is inconceivable under the physical laws which control intra-abdominal pressure; and with the intestine in contact with a weakened point protrusion is always possible.

DR. T. S. K. MORTON: Several years ago, a London surgeon—I think Mr. Morris—wrote quite an elaborate thesis on the subject of the mesentery and its relation to hernia. He apparently demonstrated that in the cases of hernia which he had examined there was distinct lengthening of the mesentery, which seemed to be peculiar to such cases. He found this in the very young, and he urged that the lengthening of the mesentery had a great deal to do with the occurrence of the hernia. I have seen this statement incorporated in one or two text-books, and it seems remarkable that no one has before this thought of suggesting the operation of doubling the mesentery on itself to prevent the occurrence of hernia. I understand that Dr. Shimwell has done this operation upon animals with satisfactory results.

In this connection the recent suggestion of Mr. Tait in regard to treatment of hernia by abdominal section, comes up with special force. If, as Mr. Tait tells us, it is exceedingly easy to draw the hernia back even when tightly strangulated, and if, at the same time we can shorten the mesentery and cure the hernia, and also deal with any prolapsed omentum, it would be a distinct advance in surgery. The method is not applicable to all cases of hernia. If the operation has any field it is in inguinal, and especially in femoral hernia. Dr. Shimwell has thrown out a very valuable suggestion, and I should hesitate very much to condemn the method until I heard more about it.

DR. SHIMWELL: I did not attempt to apply this method to all hernias. I think that any case in which the hernia can be maintained by a truss should not be operated upon. The method was suggested for those cases in which a radical cure was indicated. The method, of course, is applicable only to intestinal hernia. When we find omentum in the sac we do not hesitate to remove it. In peritonitis the omentum is contracted, and is found high up in the peritoneal cavity, and is of no use. The occurrence of congenital hernia is no objection to the method. The difficulty may not be originally in the canal, but the lengthened mesentery may permit the bowel to so press upon the canal as to weaken it. It seems folly to tinker with the canal and not try to remove the cause.

SCROTAL HERNIA REDUCED AFTER THREE WEEKS' MANIPULATIONS.[1]

BY A. B. HIRSH, M.D.

TO illustrate the value of massage in this condition I here report the brief notes of a case recently occurring in practice:

A. L., aged forty-seven years, of medium height and sparely built, is predisposed to hernia because of his laborious calling, being a boiler-maker. In 1872, after lifting some weighty object, the gut descended through tne right inguinal canal, appearing at the external ring. A proper support was immediately applied. As, however, no pain or inconvenience was felt, he gradually omitted wearing his trusses (of which a variety was used), so that the tumor finally became scrotal; although always reducible. Six years ago he first noticed that he could no longer return the mass, and he, therefore, left off the truss altogether; but at no time previous to last fall did it give him any concern, as the bowels always acted normally, and he was able to follow his trade without interruption.

[1] Read at the Philadelphia County Medical Society, March 9, 1892.

Although for some years in attendance on the family, it was not until November last that I first learned of the existence of the hernia, and then he was already laboring under symptoms of obstruction. Prolonged efforts at reduction were of no avail, so that I advised radical measures. The scrotal mass evidently contained omentum as well as gut. He had been for three days without movement from the bowels, although active purgatives had been repeatedly taken, and fecal vomiting had begun some hours before my arrival. To the operation of herniotomy he objected decidedly, insisting on palliative measures alone, so that I was bound with misgivings to accede. High irrigation by the rectal tube was done, carminitives given, the intestinal tract acted on by active salines and cholagogues, with relief to the fecal vomiting and more urgent symptoms. This purging was followed up daily for nearly a week, ice-bags constantly applied over the tumor, the foot of the bedstead elevated, and a diminished semi-solid diet allowed. Then the services of a masseur were called into requisition, seeking to loosen up any scrotal attachments of the mass, while I saw the patient only at occasional intervals to direct the cause of pressure by the manipulator, and by three weeks longer efforts the entire mass was returned into the abdominal cavity for the first time within six years.[1] Every troublesome symptom had disappeared, and, by wearing his ordinary retentive truss, he was again able to follow his ordinary occupation.

I wish, in conclusion, to briefly emphasize the facts that in some cases of hernia of long standing, unreduced, it may be presumed that adhesions had formed within the scrotum.

In such instances where operation is declined, or the condition of the patient prevents it (providing a diagnosis of acute strangulation can be excluded), continued taxis may relax the parts or lengthen or break the adhesions, and allow of a reduction of the abdominal contents.

DISCUSSION.

DR. CHARLES P. NOBLE: Last year I saw, in consultation with Dr. Van Buskirk, a woman who had fecal vomiting. She had a femoral hernia which had been strangulated for four days; she also had chronic bronchitis, and had a large goitre. Efforts at taxis had been made repeatedly without success. Operation was advised, but in view of the duration of the strangulation and the presence of bronchitis and goitre, the prognosis was unfavorable, and the family declined operation. The hernia remained down some days longer and then went up of itself, and the bowels moved, and apparently the woman was going to get well, but the prolonged obstruction had produced so much asthenia that she died of pneumonia. An interesting point is the length of time the bowel was down and then returned spontaneously.

Dr. M. PRICE: I admire Dr. Hirsh's confidence and energy, but I do not admire the treatment. The other night I was called to Trenton, N. J., to operate on a gentleman who had been treated for four or five days by a homœopath for stomach trouble, and was vomiting feces. Another physician being called found an inguinal hernia and telegraphed for me. I immediately etherized the patient and cut down upon the hernia, which was not even discolored. It was down in the scrotum; it had been there for months. It was not strangulated, although tightly held at the inguinal ring. A mass of hardened feces in the bowel was the cause of the obstruction; there were no adhesions anywhere. I am confident that Dr. Hirsh had an obstructed but not a strangulated bowel. Most cases of strangulated hernia end in death, no matter what procedure is adopted. I have never seen a case where four or five inches of the bowel were gangrenous, recover. Obstructed or incarcerated bowel is really the condition which is reported strangulated hernia.

The idea that a hernia can be easily reduced through the median incision is a mistaken one. I operate in the median line for doubtful femoral and inguinal hernia—that is where there is a little tumor in these situations without evidences of incarceration. In such cases I have never been able to reduce the hernia from the inside; I have had to cut down over the tumor. In doing that you have an excellent chance for making a radical cure. I have operated on a number of cases in this way, and there has been no return of the hernia.

DR. JOSEPH HOFFMAN: Some years ago I had a case of inguinal umbilical hernia in an old lady, who had been seen by probably a dozen men. I was called in and I massaged that hernia for four days, and I thought I had cured it. In two or three days I was called, and found that the patient was vomiting fecal matter. The trouble was that the hernia had returned *en masse*. This case shows the danger of attempting to cure strangulated hernia by manipulation. We may reduce the hernia without relieving the obstruction. Where the hernia has lasted for any length of time it is not safe to try to reduce it. Some two months ago I had a case where, if I had attempted to withdraw the hernia, I should have drawn back first a strangulated bowel nearly gangrenous with two inches of gangrenous omentum and two or three ounces of gangrenous fluid.

DR. HIRSH: I should not advocate massage as a universal remedy in recent or old hernia. In this case it was applied because the family refused more radical procedures. The hernia having remained in the scrotum for six years, it is certainly fair to conclude that adhesions had formed, and the fact that three weeks were required in separating the structures and in returning the mass makes one believe that there must have been adhesions to stretch. I was careful to mention that it was an obstructed bowel, and not that actual strangulation had taken place.

[1] I should state that each daily séance lasted about half an hour.

IN A HOLE.

E CHENERY, M.D.
BOSTON.

WHEN the friends of strong drink put themselves in a hole, or like the miller, get entangled in their yarn, there is some degree of satisfaction to those of an opposite way of thinking. The friends of alcohol are a curious set of folks in these days, for, while they know very little in favor of this treacherous drug, and have reason to know much against it, they are strenuous in their opposition to any measures which would help put it away from such as have less chance to understand its evils. These friends, while honeycombed with doubt, act as though they had the whole truth on their side. Any fellow that would stake his money with a hundred to one chances against him should either go to school or to an institution for incompetents. Boston physicians—I speak of the generality of them, not of the few—are still too much prejudiced in favor of alco-

holics. They pet and prescribe these fluids as nourishing or supporting, or stimulating, etc., as if they were really so and not the very contrary. Yet the highest touches of science give us no proof that alcohol is changed in the system so as to be incorporated, neither that it incorporates anything eles. On the contrary, it is perfectly evident that alcoholics hinder both the building of the body and the eliminating of the already dead and useless waste. As a supporter it is thoroughly deceptive, producing a mere temporary change in the feeling by its ether qualities, while it actually lowers the tone of the body.

As a stimulant:

Out of their own mouth shall they be judged.

It is known that dogs are affected by many agents very much as the human species is; hence the readings of experiments on them can be transferred with very little modification to man.

Now, the most modern and the most careful experiments on these animals show that alcohol, in all its forms, diminishes the amount of blood the heart can carry through itself and distribute to the organism, and that diminished work is just in proportion to the increasing carbo-hydrogen element in the form of alcohol used.

Thus, if the dog's heart pumps round a given quantity of blood in a given time, under normal temperature, say from 135 c. cm. to 195 c. cm., then under the same conditions with ethylic alcohol, there will be a decrease of the amount circulated of 11.5 per cent.

	Per cent.
Methylic alcohol	15.5
Prohylic alcohol	47.2
Butylic alcohol	83.4
Amylic alcohol	90.0

This showing by physiological experiments casts the idea of heart stimulation by alcohol completely into the shade. Most likely there is one error here which future experiments will correct, and give the lowest place to the lightest, viz.: spirit to the methylic alcohol, the position it holds in all other respects.

Now, if doctors can stand up and advocate that alcohol is a true stimulant in the place of these, their own facts, then may the men in prison contend that they are the only free men, and that all outside are bound. Let the friends of humanity push on, for science is constantly coming to their aid and furnishing them material with which to dynamite old notions, which, like rocks, have lain across the path of progress. If there ever was any reasonable claims for the existence of alcoholic liquors, how happens it that every one of those claims are, one by one, being blasted by the deft hands of science, while not one respectable thing is being brought forward in its favor? And why do intelligent people in our day continue to allow themselves to be fooled and defrauded by this deceiving agent, as the ancients, for thousands of years, allowed themselves to be fooled and swindled by the lying oracle at Delphi? It is high time that sensible physicians shook the venomous thing out of their laps and put their foot on it, as they would on much less harmful serpents, and crush the life out of it, and save the unprotected people. For one I cannot see how any modern, thinking man, who has any sympathy for his race, can tamper with it at the bedside or lend his inflnence to keep it in existence, so long as its existence means the downfall of many homes and the destruction of multitudes who do not know how to resist its deceitful charms.

THE NEW SCRIPTURES ACCORDING TO TYNDALL, DARWIN, ETC.

By SARAH ADELE PALMER, M.D.

(Genesis, Chapter II.)

PRIMARILY, the Unknowable, moved upon cosmos, and evolved protoplasm.

2. And protoplasm was inorganic and indifferentiated, containing all things in potential energy; and a spirit of evolution moved upon the fluid mass.

3. And the Unknowable said, Let atoms attract; and their contact begat light, heat and electricity.

4. And the Unconditional differentiated the atoms, each after its kind, and their combinations begat rock, air and water.

5. And there went out a spirit of evolution from the Unconditioned, and, working in protoplasm by accretion and absorption, produced the organic cell.

6. And cell by nutrition, evolved primodial germ, and germ developed protogene, and protogene begat eozoön, and eozoön begat monad, and monad begat animalcule.

7. And animalcule begat ephemera; then began creeping things to multiply on the face of the earth.

8. And earthy atom in vegetable protoplasm begat the molecule, and thence came all grass and every herb in the earth.

9. And animalculæ in the water evolved fins, tails, claws and scales; and in the air, wings and beaks; and on the land there sprouted such organs as were necessary, as played upon by the environment.

10. And by accretion and absorption came the radiata and mollusca, and mollusca begat articulata, and articulata begat vertebrata.

11. Now these are the generations of the higher vertebrata, in the cosmic period that the Unknowable evoluted the bipedal mammalia.

12. And every man of the earth, while he was yet a monkey, and the horse, while he was a hipparion, and the hipparion, before he was an oredon.

13. Out of the ascidian came the amphibian and begat the pentadactyle, and the pentadactyle by inheritance and selection produced the hylobate, from which are the simiadæ in all their tribes.

14. And out of the simiadæ the lemur prevailed above his fellows and produced the platyrrhine monkey.

15. And the platyrrhine begat the catarrhine, and the catarrhine monkey begat the anthropoid ape, and the ape begat the longimanous ourang, and the ourang begat the chimpanzee, and the chimpanzee evoluted the what-is-it.

16. And the what-is-it went into the land of Nod and took him a wife of the longimanous gibbons.

17. And in the process of the cosmic period were born unto them and their children the anthropomorphic primordial types.

18. The homunculus, the prognathus, the troglodytes, the autochthon, the terragen—these are the generations of primeval man.

19. And primeval man was naked and not ashamed, but lived in quadrumanous innocence, and struggled mightily to harmonize with the environment.

20. And by inheritance and natural selection did he progress from the stable and homogeneous to the complex and heterogeneous; for the weakest died, and the strongest grew and multiplied.

21. And man grew a thumb, for that he had need of it, and developed capacities for prey.

22. For behold, the swiftest men caught the most animals, and the swiftest animals got away from the most men; wherefore, the slow animals were eaten, and the slow men starved to death.

23. And as types were differentiated, the weaker types continually disappeared.

24. And the earth was filled with violence; for man strove with man and tribe with tribe, whereby they killed off the weak and foolish, and secured the survival of the fittest.

Society Notes.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON ORTHOPÆDIC SURGERY.

Meeting of February 19, 1892.

HENRY LING TAYLOR, M.D., Chairman.

DR. W. R. TOWNSEND presented a girl, fourteen years of age, with rotary lateral curvature. At the age of three years, and after whooping-cough, she developed an empyema on the left side, which opened spontaneously. These sinuses continued to discharge for five years, and the three cicatrices—one to the left of the nipple, and two slightly below and to the right—show the points where the openings occurred. When five years old, it was noticed, one morning, that there was a complete loss of power in the left upper extremity. The mother said that there had never been any curvature of the spine before the attack of paralysis, although the child always slept on the left side, and that the curvature had been steadily increasing since then. The circumference of the chest at the nipples is twenty-four inches, the right side measuring fifteen, and the left nine inches. There is a very marked lateral rotary deviation of the spinal column to the right, extending from the seventh cervical to the tenth dorsal, with compensating curves above and below. There is no torticollis. The breathing space is good, considering the amount of the deformity. The heart is not displaced. There is complete loss of reaction to faradism in the left supra- and infra-spinatus, and in the deltoid, and a reversal of the formula with the galvanic current. There is no anæsthesia, but marked atrophy of the shoulder and upper left arm. There is a partial loss of reaction in the pectoral, but the biceps, triceps, and forearm muscles react well.

The interesting feature was the relation of the rotary curvature to the empyema and the poliomyelitis. His own opinion was, that the empyema probably caused a slight curvature, and that the paralysis had helped to increase it, but that there was no connection between the empyema and the paralysis; in other words, the paralysis was not produced by the scoliosis, but was separate and distinct, and due to a poliomyelitis. He had presented the case chiefly because it was of interest in connection with the first paper announced for the evening.

DR. ROYAL WHITMAN also presented a little girl as an illustration of a pure rotary lateral curvature caused by anterior poliomyelitis.

DR. H. W. BERG said that he had had an opportunity of seeing this patient, and had obtained a somewhat different history. According to this version, the patient was still in bed with the empyema when the family first noticed that she was lying more upon the left side. The occurrence of the paralysis was sudden, and the attending physician allowed her to get out of bed, and at this time the extreme lateral curvature was first noticed. If this curvature were the result of the poliomyelitis, it would not have been so extreme at this early age, for it takes time for muscles to contract and cause deformity. In this case the paralyzed muscles are on the left side of the body, and the primary curve toward the right; while in cases of lateral curvature due to paralysis, the healthy muscles must necessarily be on the concave side of the deformity. The only way in which poliomyelitis could possibly produce a curvature on the concave side of the deformity, would be in the third stage of this disease—*i.e.*, in the third or fourth year after the paralysis, when the muscles begin to contract into firm, fibrous cords.

DR. ROYAL WHITMAN thought if the long supporting muscles were paralyzed, it might be as the previous speaker had said, but in these cases where only the muscles supplying the shoulder were paralyzed one would expect the curvature to be toward the opposite side.

DR. BERG replied, that the intrinsic muscles are not alone paralyzed in this case. Lateral curvature must follow contraction of the intrinsic muscles of the spine, and not of the long muscles.

DR. R. H. SAYRE had seen a number of cases of lateral curvature dependent upon poliomyelitis with paralyses of the external muscles on the concave side, and hence, he thought, the statement that the convexity is always on the side of the paralyzed muscles could not be accepted without qualification. He had been surprised that German writers took it for granted that empyema curves are not rotary.

DR. S. KETCH was not prepared to indorse the view that the curvature was mainly due to the empyema; on the contrary, he thought the patient had that form of curvature usually found as a result of anterior poliomyelitis. Undoubtedly the empyema tended to exaggerate this curvature.

DR. N. M. SHAFFER said that, so far as he knew, the first reported case of lateral curvature due to poliomyelitis had been published in his book, in 1876 or 1878. That case had been examined by Dr. Seguin, Dr. Draper, and himself, and they had found the paralysis on the hollow side. On general principles, he believed that Dr. Berg was correct in his statement. In 1881 he had called attention to the fact that a rotary element existed in empyemic curves. It was exceptional for him to find a lateral curvature of the spine, due to empyema, which was not associated with a greater or less degree of rotation. The error probably arose from the fact that Dr. W. J. Little, of London, who first described it, made this mistake, and other writers had perpetuated the error.

DR. MARY PUTNAM JACOBI called attention to the monograph by Eulenberg, on lateral curvature of the spine, in which he stated, very categorically, that in ordinary typical cases of lateral curvature the muscles on the concave side are necessarily the stronger, and explains, on this principal, the mechanism of the production of lateral curvature. His idea is, that it is due to a disturbance in the balance of the muscles of the two sides, whether extrinsic or intrinsic.

DR. A. B. JUDSON said, that in his earlier studies of lateral curvature he had adopted, without due verification, the statement of foreign observers that rotation is absent from the curvature caused by pleural disease. At present, he believed that it does not occur but in a very modified and unimportant degree. The collapse of the chest wall would weaken the action of some of the muscular and fibrous structures which cause rotation by holding the spinous processes

nearer the median line than the bodies of the vertebræ. For this reason we may well expect the rotation to be less marked. In the case shown there is little difference in the diagonal diameters, which is the chief feature of rotation, and is caused, in an ordinary case, by the prominence, posteriorly, of the right back of the chest, and the complementary prominence, anteriorly, of the left front of the chest. Here we have prominence front and back on the right side, and depression front and back on the left side, with but little difference in the diagonal diameters, a condition very unlike the effect of rotation. Still there may be, and probably is, some rotation in the vertebral column of this patient, although its effect on the deformity is not easily recognizable.

DR. TOWNSEND said, that owing to the fact that in this case one was compelled to rely wholly upon the varying statements of the parents of the child, who were not very close observers, it would be well to be cautious in drawing conclusions from a study of this case alone. He did not agree with Dr. Berg as to the relation of the paralyzed muscles to the concave side.

VOLUNTARY SUBLUXATION OF THE KNEE PRODUCED BY MUSCULAR ACTION.

DR. R. H. SAYRE showed a child of fourteen months, presenting this condition. The mother first noticed this condition when the child was eight months old. When he was excited the right knee is pushed in and out with a distinct click. The child was born after a normal labor, and there was no history of injury. He proposed to apply a splint, in order to retain the knee in position.

AN APPLIANCE FOR THE PREVENTION OF DEFORMITY IN HIP DISEASE.

DR. WHITMAN presented a case illustrating this appliance. He believed that the long traction brace was the most useful appliance in these cases, for it acted as a perineal crutch, a protection which could not be removed by the patient. This was the principal objection to any brace which depended on axillary crutches for its usefulness. Simple fixation of the joint, allowing the patient to walk about on the affected limb, as practised by Thomas and others, did not afford this protection, which he considered the most important element in the treatment of any joint affection. On the other hand, with the simple long traction brace, gradual and increasing flexion of the leg was a very common and troublesome complication. This was the weak point of the brace, and the one most constantly attacked by its opponents. He had, therefore, attempted to combine the merits of two braces as follows: The limb having been brought into perfect position, a slender steel bar attached above to an encircling thoracic band, and terminating just above the knee in a thigh band, was closely applied along the posterior aspect of the joint, after the manner of Thomas. The long traction brace was then applied as usual. Thus flexion was prevented, additional fixation assured, combined with effective protection. By dividing the function of the two braces, the posterior or miniature Thomas brace could be made very light and comfortable; it, however, was not to be used as a lever to correct deformity. This should first be overcome by traction in bed or otherwise. He believed this division of labor to be more practicable than the addition of perineal bands and traction to the ordinary Thomas brace, as suggested by Lovett and De Pass.

DR. JUDSON commended the use of one apparatus, the hip splint, to protect the joint, and another, the antero-posterior lever, if apparatus is necessary for this purpose, to oppose flexion. In general, it is better not to attempt too many things by one and the same apparatus. He thought the antero-posterior lever, for combating flexion and maintaining fixation, was the essential element of the Thomas splint.

DR. SHAFFER said that where supplementary apparatus is employed to limit the motion of the dorso lumbar spine, and the motion on the acetabulum, unnecessary traumatism was inflicted upon the acetabulum. He had studied this subject quite closely, and, in his opinion, this motion of the dorso-lumbar spine is one of the greatest aids in the treatment of this condition. It was better to treat flexion by recumbency and rest until the flexion is overcome, than to apply an apparatus which antagonizes the very strong action of the flexor muscles.

DR. WHITMAN said he recognized the force of what Dr. Shaffer had said about the flexibility of the lumbar spine; but he was inclined to think that the motion of the diseased joint, which the simple traction brace permitted, and the deformity which it did not prevent, were more important considerations than the theoretical objection which Dr. Shaffer had presented. This fixation apparatus was applied before there was any flexion, and in the case presented there was no spasm of any of the muscles.

DOES SCOLIOSIS EVER GIVE RISE TO PRESSURE MYELITIS?

DR. H. W. BERG read a paper with the above title.

DISCUSSION.

DR. R. H. SAYRE thought there was no doubt that the difference in mammary development observed in cases of rotary lateral curvature were the result of trophic change, but the cause of this disturbance was still uncertain. In advanced cases he had been inclined to attribute this disturbance to pressure on the nerves at their exit from the bony canal. Pathological specimens showed not only a narrowing of the bony canal, but also large exostoses at the points where the vertebræ join; it was quite possible that these might project inward as well as outward.

The case described in the paper had at one time been under his care, and he had considered it as closely resembling disseminated sclerosis, although it was not typical of any diseased condition with which he was familiar. Dr. Spitzka had held the same position. The case had been diagnosticated as lateral sclerosis by one neurologist, and as hysteria by another eminent neurologist, who had employed hypnotism upon the patient, though unsuccessfully. She had been referred to the speaker with the idea that there was some pressure on the cord at about the tenth dorsal vertebra, which might possibly be relieved by a surgical operation. He had been unable, however, to detect any mass pressing upon the cord, and from the effects of momentary suspension, he did not think this method of treatment would prove beneficial. He did not associate the cord lesion with the lateral curvature. The trophic changes were probably due to disturbance of nutrition external to the cord.

DR. SHAFFER considered that the author's case of lateral curvature differed only in degree from almost every case of this condition. It was rare to find lateral curvature without an exaggerated tendon reflex, a non-deforming club-foot, or various trophic

changes, and the latter occur in incipient cases, before there can be any pressure on the cord. Girls suffering from lateral curvature are usually peculiarly nervous, and oftentimes seem to assume the responsibilities of their entire family. This is the direct result of the central nervous lesion, one which pertains more to the physical condition than the spinal cord condition. Our clinical studies drive us by analogy to look in the motor tract of the brain for the cause of the condition.

DR. KETCH looked upon the trophic changes as an element in the etiology of lateral curvature, rather than the result of this condition. It was probable that at a very early period in life there was a disturbance of the nervous system, most probably of the brain, which produced the lateral curvature. Boys having lateral curvature, show atrophy of the limbs; but the general nervousness is not so marked. For example, he had at present under observation a robust boy, fifteen years old, with lateral curvature, who was supernaturally strong, and supernaturally slow and apathetic. He thought it highly improbable that pressure myelitis ever occurred in these cases.

DR. L. W. HUBBARD could not understand how the paraplegia of Pott's disease could be said to be due to cord pressure from change of position, as clinically it seemed to bear no relation to the amount of curvature, or the situation of the lesion, and it was present when there was no curvature, and, moreover, recovery took place without any change in the curve of the spine. He saw nothing in the case reported analogous to the myelitis of Pott's disease.

DR. JUDSON would eliminate muscular contraction as a factor in the causation of lateral curvature, believing that rotation and curvatures, primary and secondary, are only the mechanical result of muscular failure to sustain the weight of the trunk. He would welcome with extreme pleasure any advance in our exact knowledge of the etiology of lateral curvature.

DR. V. P. GIBNEY had never seen pressure myelitis in an uncomplicated case of rotary lateral curvature.

The Chairman agreed with Dr. Hubbard that the analogy of the case under discussion to the myelitis of Pott's disease, was not very strong, as according to the view advanced by Dr. Hoffa at the last meeting of the American Orthopedic Association, and generally accepted by those present, the paraplegia is due to the pressure of inflammatory products. Personally, he had never seen a case of lateral curvature complicated by paraplegia or symptoms of lateral sclerosis. Last fall he had had a case of very moderate curvature, with a very peculiar ataxic gait, but a careful examination excluded organic disease of the spinal cord, and it was decided to be a case of functional nervous disturbance, possibly produced by masturbation. It seemed strange that such a mild use as the one described in the paper should produce such marked nervous symptoms, while the much more severe cases so often seen have no analogous symptoms. He looked upon the cord lesion as merely a coincidence.

DR. BERG, in closing the discussion, said that he thought the diagnosis of disseminated sclerosis very improbable, and this diagnosis had probably been made because a primary sclerosis of the cord is such a rare condition that whenever a neurologist sees a spastic paralysis in an adult, and can find no cerebral symptoms, or symptoms of pressure upon the cord, he makes a diagnosis of disseminated sclerosis. Dr. S. Weir Mitchell had given it as his opinion that the case was one of primary lateral sclerosis. There was no doubt as to the sclerosis and the lateral curvature, the only doubt is as to the connection between the lateral curvature and the sclerosis. Pott's paraplegia is caused by a variety of conditions, but he believed that in nearly seventy-five per cent. of the cases the paraplegia was due to pressure resulting from flexion of the cord at the angle of the curve. He had no doubt that hundreds of cases had been seen where the lateral curvature had been considered the result of paralysis, where it was really the cause.

FEMORAL ABDUCTION, ADDUCTION AND FLEXION.

DR. JUDSON presented a convenient method of observing the degrees of motion in cured and convalescing cases of hip disease. The subject was illustrated by boards on which dolls were fixed, the center of motion at the hip in each case being surrounded by a graduated arc with the degrees numbered from zero, in the natural position of supine recumbency, with a slight lordosis, up to the widest limit of normal motion. In practice, the region of motion is first to be found, and then the extent to which it may be pushed, without disturbing the natural and symmetrical position of the lumbar vertebræ and the iliac spines, is to be noted on the goniometer. The degrees of motion in flexion and latterally may thus be readily recorded.

The presence of considerable motion warrants a serious effort to reduce whatever deformity may exist. He cited two cases in which the patients being considered cured, relief had been sought for the deformity. Enough motion was found to encourage hope, and good results were recorded in a few months, in each case after the application of a hip splint, and later, a simple ischiatic crutch, and the return of the patient by instruction and drill to the natural rhythm of walking. The improvement was readily measured in degrees, from time to time, and the deformity was almost completely reduced.

A NEW METHOD OF MAKING PLASTER CASTS OF THE THORAX IN CASES OF ROTARY LATERAL CURVATURE.

DR. MARY PUTNAM JACOBI exhibited a series of models which she had prepared by an original method. It had been suggested to her by observations made with the cyrtometer upon the condition of the thorax after empyema. An outline of the thorax at the desired level is first taken with a cyrtometer, which is an instrument consisting of two soft strips of lead united by a hinge, which is placed over the vertebral column, and the lead strips closely applied to the chest walls. The lead is next placed upon a slab of marble, where it serves as a sort of shallow frame into which the plaster of Paris cream is poured and allowed to set. This gives practically a thin plaster cast representing a section of the thorax.

She calls attention to the case with which the diagonal diameter could be obtained, and also to the way in which these casts brought out small degrees of curvature.

(Discussion on the papers of Drs. Judson and Jacobi postponed.)

"SAGE AND ONIONS," commonly used as duck-stuffing, will often cause expulsion of tape and other worms. A huge dose of table salt will sometimes have the same effect. It seems a wise provision of fashion that orders sage and onions with roasted pork, a prolific cause of tape-worm, as though the one were to act as prophylactic against the other.

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GREAT CHARITIES AND PUERILE ADMINISTRATION.

NEW YORK is having trouble with her ambulance system. The youngest and most inexperienced resident, still top heavy with the dignity of his newly-acquired doctorate degree, is the one usually sent to answer calls for the ambulance. The result is seen in two cases recently described in the journals. An aged woman was run over and seriously injured. The Roosevelt Hospital ambulance was summoned, but the doctor in charge refused to receive the woman, and drove off, although urged by two physicians present to take the woman to the hospital. So indignant were the bystanders that they pelted the doctor and ambulance with snowballs as they drove off.

What a comment is this on the description of this hospital by a British visitor, quoted in a recent New York medical publication. He speaks of the mag nificent operating theater, the finest in the world, and of the difficulties experienced in finding ways of expending the enormous sum ($400,000) given to the hospital for that purpose.

In another case the coroner's jury censured the ambulance surgeon of Manhattan Hospital for shameful neglect of a man with a fractured skull, their ver dict ending as follows:

"We condemn the treatment of the ambulance surgeon who had charge of the case, as well as the surgeons of Bellevue Hospital, under whose charge the deceased was placed. We further condemn the practice of the hospitals of having young and inexperienced doctors, and we strongly recommend that the hospitals be censured, and that if the authorities have the jurisdiction they should insist that experienced doctors and surgeons be placed in charge, so as to protect the lives of the unfortunates who may be placed in their charge."

It is thus seen that the grandest designs of philanthropists may be brought to naught by the selection of improper instruments. It is one of the grave defects of the examination system that it cannot determine the fitness of candidates beyond their proficiency in study. "*Though I have the gift of prophecy, and understand all mysteries and all knowledge, and though I have all faith, so that I could remove mountains, and have not charity, I am nothing.*"

DR. D. HAYES AGNEW.

DR. AGNEW died at 3 P.M., March 22, at his residence in Philadelphia, in the 74th year of his age. He had always been a man of robust health, and had taken better care of himself than most physicians. He invariably went to bed at 9 P. M., and rose at 7 A.M. Three years ago he began to show signs of failure. His work became a trouble to him. An attack of influenza occurred in 1890, lasting six weeks, and greatly debilitating him. The following winter another attack ensued, and during the winter just past he had a third. During the entire winter he was in bad health, which was further aggravated by anxiety over the illness of his wife.

March 9 he contracted a severe cold, which did not, however, prevent his going out to visit his patients or operating. As he completed the operation he was seized with a severe angina, and was thought for a time to be dying. He was taken home and put to bed; when he rallied. On the 13th he suffered a relapse, and was not expected to survive the night.

Another rally, due to his rugged constitution, followed, and he seemed to be on the mend. During this time he was thoroughly conscious and prescribed for himself. He seemed to realize what was best to be done in his own case, and, while knowing how desperately ill he was, kept calm and philosophical through it all.

So much did he improve that, on Saturday last, he received a number of friends, among them being his Pastor, the Rev. J. S. MacIntosh, D.D., of the Second Presbyterian Church, but on Sunday there was a sudden and alarming change. His whole system gave way at once, and his decline was rapid. Dr. DaCosta, who had attended him in the beginning, had left the city, and was succeeded by Dr. J. William White, Dr. Pepper and Dr. Daland. These three did all in their power to sustain life, but on Monday night gave up all hope. Consciousness had left their distinguished patient during the afternoon of that day, a condition that continued until his death, which came painlessly.

There were assembled around the bedside at the time Mrs. Agnew, the Rev. B. L. Agnew, a cousin of the surgeon; the Rev. Dr. MacIntosh, Dr. White, Dr. Daland and Dr. J. Howe Adams.

An article prepared for the forthcoming "American Encyclopedia of Biography" will give the following estimation of the life and work of Dr. Agnew:

"Dr. Agnew was fortunate in the time of his birth, for he saw surgery grow to a great science in his lifetime, and he possessed the abilities to keep abreast of all advances. In this he was as fortunate as his fellow professor, Leidy, was in the domain of biology. This characteristic of keeping abreast with the times he ever preserved. His clear judgment showed him

in later years the tremendous results which might be accomplished under antiseptic surgery, and he became one of the first advocates, although, had he been disposed, he could have retarded terribly this innovation in surgery. In this faculty he differed from many of the authorities in other branches of scientific work.

"Dr. Agnew was not only an accomplished surgeon in its general branches, but he was a specialist on diseases of the eye, on diseases of women, and other branches which are now held entirely by men who do no other work. He was possessed of a profound knowledge of anatomy. His wonderful skill and ease in operating was due somewhat to this preliminary training in anatomical teaching. While he was a most brilliant operator, he always conscientiously avoided brilliant surgery, unless the patient's interests demanded it fully. He had no sympathy with operators who operated simply for their own fame. Sympathetic and gentle to an extraordinary degree, he formed the ideal conception of what a physician should be. Years of experience and training did not harden him to the necessities and desires of the humblest patient.

"There was a magnetism about the personality of Dr. Agnew which made all who came in contact with him his warmest personal friends. In appearance he was imposing, being over six feet in height, his manner was gracious, kind and courtly, and he lived to become what his character and career deserved, the greatest surgeon America has produced."

Dr. Agnew was very kind to the young physician. He never refused his aid, even when the fees were trifling, but gave his young brethren the benefit of his advice and the powerful support of his name as freely as if the patient was a millionaire. This is one of the traits that endeared Dr. Agnew to the profession, to a degree not approached by any of his colleagues. With his death the last of the University's "old faculty" vanishes; the men who commanded the affection and veneration of their numerous pupils. With Agnew and Leidy dead, and Stillé in retirement, the day of old-fashioned things and grand teachers has been completely replaced by that of modern methods and modern men.

Annotations.

MEDICAL NATIONALISM.

IN *The Doctor's Weekly* for February 6, Dr. M. J. Burstein discusses the Ideality of Medical Sciences. His solution of the difficulties that beset us is in the line of Bellamy's teaching, as may be seen by the following extract:

Let the doctors of each and every State form an "Order," with a grand medical board (or call it State Medical Board, if you like). This board should have its subordinate or county societies; which, again should subdivide into districts. Each district should have a certain number of physicians, according to the density of the population. A physician should have a certain number of patients under his care, or he may be appointed by the Grand Medical Board to a fixed number of families living in his district. Physicians may be subdivided into three classes, according to their standing in the profession: Regular, attending, visiting, and consulting. By this procedure, if in some cases a few physicians are wanted, as for an operation or consultation, a certain number of physicians could be procured. In this way only would we be able to give the poor man a chance to call in a doctor when needed, before he has reached a hopeless stage.

Now, as regards the financial bearing of the question. It would be difficult or impossible to induce people to pay in advance a fixed sum of money for future medical advice. But a suggestion would be the following: Let the doctor be an officer of health, as a policeman is an officer to keep order in town, let him be a "sanitary teacher." Every such sanitary officer, or teacher, or adviser, should, according to the amount of work he does, be paid by the Government of the State a certain salary. Say, we have in a city 2,000 physicians, let the average for everyone be $3,500, making $7,000,000 a year, which is, certainly, a great deal less than the same number of physicians earn annually by the present "Fee System." The money should be distributed by the Grand Medical Board, as teachers are paid by the Board of Education. The people may be taxed, either according to their income, or each and every one alike.

There is much in the Nationalist theory to commend it to the medical profession. In no other, perhaps, is the pecuniary problem as difficult to solve, or to reconcile with the professional theory.

DR. WRIGHT, Mayor-elect of Atlantic City, in his inaugural address urged the necessity of better sanitary measures, and increased protection against fire. Even now, Atlantic City has probably the best sanitary arrangements of any seaside resort; but it is evident that her enterprising citizens are fully awake to the importance of keeping up their good reputation. The election of Dr. Wright, who has already filled the office of Mayor twice, with credit, is the best guarantee that no pains will be spared to make the city the model seaside health resort.

Letters to the Editor.

CLIMACTERIC MELANCHOLY.

I RECEIVED a case to day, the history of which I would like to give you. A woman, aged fifty years, married, has two children, boys, nearly grown. Insanity is on her father's side; his sister was in an asylum two years, but is now comparatively well. This occurrence brought on a like attack, only less in character, at the time in the present patient, which I succeeded in calming, I had hoped, permanently. Since, her health and reason have been apparently normal.

Within the past ten days she has had forebodings that she and her husband have not been as careful as they should with a son and a domestic in their family, which notion, I learn, is groundless.

She worries almost all the time, sleeps but little; her head feels very full all over, especially in the occipital region; her face is constantly red, which is characteristic, yet is of a deeper hue now than normal. She is full in flesh and has not yet passed her climacteric, although the menses have been declining gradually for a year or two.

I gave her galvanization of the brain and spinal cord, descending current, ma. 6, for a few minutes, after which she fell asleep in her chair in my waiting-room. I also gave her potassium bromide and chloral hydrate at bed time and during the night.

Is the case not one of hypochondrical neurasthenia with melancholic tendencies?

I fear the result; as this is a repetition of the trouble had years ago, and the climacteric is not yet passed.

Where do we meet the sins or misfortunes of inheritance more glaringly than in the path of the neurologist? T. C.

[Give the woman aloetic purgatives, salicylate of soda and colchicum by day, and add lupuline to the hypnotic. Relieve her of worry by sending away the object. Even if there is no reality in her suspicions, they will subside more rapidly when the cause is out of sight.—ED. T AND R.]

PLETHORIC CATARRHS.

CAN you suggest help for a case of gastralgia? A man, fifty years old, farmer, and rather active in general business, has had considerable worry during the past year over his business affairs. He has had several attacks of gastralgia since last summer, and they are getting to be more frequent, yet less severe in degree. He is a large, fleshy man, a hearty eater of rich viands, and has been for many years, as a rule. He has gastritis of very noticeable degree, is often inclined to nausea, but seldom vomits; his bowels are inclined to looseness, yet are at times the reverse; his tongue always furred.

For a few weeks he has had much sore throat, growing more troublesome toward evening. The pharynx is too red, and is noticeably swolen.

Can you give me light on the case, and the way to put him in a really better way? The soreness in his throat seems very rebellious. There is no specific history. T. C.

[Chronic gastric and pharyngeal catarrhs are common incidents in the life of plethoric, over-fed individuals. The remedy lies in reducing the diet, ordering each meal to be commenced with fruit, followed by farinaceous articles, and meat lastly. Thus the edge of the appetite will be taken off before the nitrogeneous food is reached. For medicine, give 5 to 10 grains of zinc sulpho-carbolate in a large tumblerful of hot water, a little while before each meal. Paint the pharynx with diluted tincture of benzoin, 1 to 4 parts alcohol, twice daily, and keep the bowels open by compound rhubarb pills.—ED. T. AND R.]

A LONG PROFESSIONAL CAREER.

YESTERDAY I passed my forty-first milestone in professional life; without diversion or interruption in the practice of regular medicine. The last seventeen years have been spent in this malarial region, and all our epidemics are modified by the preoccupancy of malaria. Hepatic, splenic and cutaneous structures are loaded with morbid secretions and excretions which must be eliminated by the proper emunctories. The excretory efforts made by nature, and rendered efficient by the remedies employed, go very far to neutralize inflammatory action and to tide the system over the effects of the specific poison of scarlet fever in all its forms and complications. The treatment consists of old remedies judiciously and promptly employed. A calomel purge is indispensable and repeated until the disgorgement is accomplished. Quinine in alterative and tonic doses will mostly effect a cure in a few days. A great mistake is made in stopping the mercurial too soon. A peculiarity in the treatment is the tolerance of the mercurial. I scarcely ever see a case of ptyalism. S. M. Ross.

ALTOONA, PA.

Book Notices.

REPORT OF THE COMMISSIONER OF EDUCATION FOR THE YEAR 1888-89. Two volumes. Cloth pp. 1669. Washington: Government Printing Office, 1891.

SIXTH ANNUAL REPORT OF THE STATE BOARD OF HEALTH AND VITAL STATISTICS OF THE COMMONWEALTH OF PENNSYLVANIA. Harrisburg: E. K. Meyers, State Printer, 1891. Cloth pp. 740.

This is one of the books we like to recommend to our readers, because it is a record of good work; important work; work that cannot fail to interest and edify any intelligent reader. We never pay enough attention to the hygienic department of our work, and yet the study of hygiene cannot fail to give broader views to, and improve the therapeutics of, the physician. We again make the suggestion that these reports might with great advantage be introduced into the curriculum of the public schools, where much is now taught that is of far less practical value. Were these lessons in practical hygiene carried home by every intelligent pupil, and discussed at the family fireside, no one can estimate the good that would ensue. Great credit is due the efficient Secretary of the State Board of Health, Dr. Benjamin Lee, who is mainly responsible for the organization and efficiency of its work.

THE HUMAN FIGURE; ITS BEAUTIES AND DEFECTS. By ERNST BRUECKE, Emeritus Professor of Physiology in the University of Vienna, etc., with a preface by William Anderson. Authorized translation revised by the author, with twenty-nine illustrations by Hermann Paar. London: H. Grevel & Co., 33 King street, Covent Garden, W. C., 1891. American Agent, B. Westermann & Co., N. Y. Cloth, crown 8vo., pp. 188.

This work is intended for the use of artists and students in art, who will find in it many hints for the avoidance of errors into which even well-known artists fall, through ignorance of anatomical details. It is an onerous task for the art student to be compelled to study from text books designed for the student of medicine, and for this reason the work before us should receive a hearty welcome.

FORMULAIRE DES MÉDICAMENTS NOUVEAUX ET DES MÉDICATIONS NOUVELLES POUR, 1892. Par H. BOCQUILLON-LIMOUSIN, Pharmacien de 1re classe, avec une introduction par H. HUCHARD, médicin de l'hôpital Bichat. 1 vol. in-18 de 322 pages, cart. 3 fr. Librairie J.-B. Baillière et Fils, 19 rue Hautefeuille (près du boulevard Saint-Germain), à Paris.

Many new drugs have been recently introduced, of which the origin and uses are known only by reports scattered through the medical journals. The author has endeavored to collect this matter and publish it in compact form. More than 500 articles are enumerated in this edition, among them all the important articles of recent introduction.

A PRACTICAL MANUAL OF DISEASES OF THE SKIN. By GEORGE H. ROHE, M. D., Professor of Materia Medica, Therapeutics, and Hygiene, and formerly Professor of Dermatology in the College of Physicians and Surgeons, Baltimore, etc., etc. Assisted by J. Williams Lord, A.B., M.D., Lecturer on Dermatology and Bandaging in the College of Physicians and Surgeons; Assistant Physician to the Skin Department in the Dispensary of Johns Hopkins Hospital. No. 13 in the Physicians' and Students' Ready-Reference Series. In one neat 12mo. volume, 303 pages Extra Cloth, price, $1.25, net. Philadelphia: The F. A. Davis Co., Publishers, 1231 Filbert street.

This is a concise little manual on skin diseases, written for the general practitioner.

OFFICIAL TRANSACTIONS OF THE NATIONAL ASSOCIATION OF RAILWAY SURGEONS FOR 1891. With portraits of the officers of the Association and others. Published by the Railway Age and Northwestern Railroader, Chicago, Ill. Cloth, pp. 152.

The portraits alone would make this volume valuable, the gentlemen being well known all over the country as prominent railway surgeons.

ANNUAL REPORT OF THE SURGEON-GENERAL OF THE MARINE HOSPITAL SERVICE OF THE UNITED STATES, for the fiscal year 1891. Washington: Government Printing Office, 1891.

SURGICAL DISEASES OF THE OVARIES AND FALLOPIAN TUBES, INCLUDING TUBAL PREGNANCY. By J. BLAND SUTTON, F. R. C. S., etc. With one hundred and nineteen engravings and five colored plates. Philadelphia: Lea Bros. & Co. Cloth, pp. 500.

The author has endeavored to avoid the egoism generally displayed by writers on ovarian surgery; to utilize the teachings of comparative pathology in elucidating the nature of ovarian hydrocele, etc., and to assist Tait in upsetting the old ideas as to the pathology of extra-uterine pregnancy. The illustrations are nearly all original and good, the colored plates especially.

TRANSACTIONS OF THE COLLEGE OF PHYSICIANS OF PHILADELPHIA. 3d series. Vol. XIII. Philadelphia: Printed for the College, 1891. Cloth, royal octavo, pp. 179.

In this volume are entombed nineteen papers upon medical subjects, all of which deserve a better fate. Spread broadcast before the profession in the journals, they might have been of use in their day; but here they are buried like the hermits of the early Church, undisturbed save by some wandering pilgrim wearily plodding through the desert of the *Index Medicus*.

THE MEDITERRANEAN SHORES OF AMERICA; or, the Climatic, Physical, and Meteorological Conditions of Southern California. By P. C. KEMONDINO, M.D., Member of the American Medical Association; of the American Public Health Association; of the State Board of Health of California; Vice-President of the California State Medical Society, and of the Southern California Medical Society. Illustrated with forty-five engravings and two double-page maps. In one handsome, royal octavo volume, 176 pages. Extra cloth, price, $1.25, net; cheaper edition, bound in paper, price, 75 cents, net. Philadelphia: The F. A. Davis Co., Publishers, 1231 Filbert street.

Dr. Remondino is doing a good work in placing this book in the hands of the profession. Yearly the tide of invalids is setting in stronger toward Southern California, and every physician who has a patient contemplating this trip, is in need of just such information as is given by this book. The price seems very low for a work so profusely illustrated and printed in such style, on good, thick paper.

The Medical Digest.

CLASS-ROOM NOTES.—Digitalis must be exhibited with care in aortic obstruction.—Glasgow.

Old ideas are the foundation of medicine. New ones are the superstructure.—Gregory.

It is a good indication in a physician if he endeavors to avoid internal medication by using external applications, but he is apt to carry it too far and become a crank. Extensive medical education will tend to prevent this kind of crankism.—Fry.

In gonorrhœal ophthalmia the pus should not remain in the conjunctival sac long. It may be removed by means of a syringe and mild boric acid solution. Keep the eye cool by thin wet pack. Applications: solution of boric acid every hour, and some bland ointment to prevent agglutination of the lids.—Wolfner.

In the treatment of hip-joint disease, the first necessity is complete rest, which is to be brought about by immobilization of the joint; and this should be done, not with the short splint fixed around the pelvis above, but with the long splint which reaches to the axilla, for only thus can we insure perfect rest to the joint.—Steele.

I wish to warn you against the exhibition of cathartics in enteritis, where there are signs of obstruction. I have seen mercury administered in such cases; this failing, sulphate of magnesia, then castor oil, and finally croton oil, and even then the bowels didn't move, but the patient did—he went right to Heaven.—Robinson.

When there is distension of the belly after abdominal operations, and general peritonitis is threatened from flatus and anti-peristalsis, nothing seems surer of good results than the injection into the rectum of about 6 ounces of fresh beef gall and an equal amount of warm water. It apparently disinfects the canal, but this result is reached only when there is anti-peristalsis.—Tuholske.

For the relief of violent neuralgic pains:

℞.—Atropinæ sulph..... gr. j.
Cocainæ muriat..... gr. v.
Morphinæ sulph..... gr. v.
Chloral hydrat..... ʒj.
Gum camphor..... ʒj.
M. Sig.—(Poison) local application.—Steer.

—*Med. Fortnightly.*

PHARMACAL NOTES.—*Antidote for Morphine.*—Kossa (*Monit. Pharm.*, December, 1891, p. 1,007), through experiments with lower animals, finds that administration of picrotoxin and paraldehyde at the same time had the desired effect. The paraldehyde was given to counteract the contraction of the respiratory muscles produced by the picrotoxin. The latter alone does not act as an antidote in morphine poisoning.

Disinfectol is stated to be an energetic disinfectant, similar to lysol and creolin. It is a brown-black oily liquid, of an alkaline reaction, and of the spec. grav. 1.086, and besides hydrocarbons contains sodium carbolate and resin soaps.

—*Jour. Méd., Chir., Phar.*, November, 1891.

Sulphaminol.—Wojtaszek (*Przeglad Lekarski*, August 8, 1891,), experimented with this new antiseptic, sulphaminol or *thioxydi-phenyldiamine*, proposed by Merck, but dose not arrive at the same conclusions as this investigator. Hypodermic injections of 3 to 4 gm. to the kilo of the animal (rabbit), produced no effect, but like foreign bodies became encapsuled after a few days. Exhibited by the mouth it is totally eliminated with the fæces. Antiseptic effects also could not be observed.

Exhibition of Cod-liver Oil.—Revue de Thérapeutique (1891, p. 641) advises a mixture of equal parts of cod-liver oil and lime water as a manner of exhibiting cod-liver oil in a form which is borne by a delicate stomach. The mixture is milky, syrupy

and inodorous; it does not develop a rancid and repugnant aftertaste. The assimilation is said to take place readily.

Uses of Strontium Bromide.—In a discourse before the Academy of Medicine, Prof. Seé reported (*Progès Méd.*, October 31, 1891,) that the diuretic properties of strontium salts observed by Dr. Laborde in the dog were not observed in the human subject; but that he had seen notable improvement of the digestive disturbances in patients suffering from diseases of the heart and kidneys. In daily doses of 2 to 4 gm. administered at meal time, strontium bromide afforded decided relief in cases of dyspepsia, and the salt was also found useful in Bright's disease. At a meeting of the Biological Society, Dr. Fréré stated that strontium bromide, owing to its being well tolerated by the stomach, may be used in place of potassium bromide.

Strontium lactate may be made from lactic acid and strontium carbonate. Dr. C. Paul considers this salt to be of decided advantage in rheumatic parenchymatous nephritis, in scrofulous and gouty nephritis, and in albuminuria of pregnant and puerperal women, the secretion of albumin being rapidly decreased to one-half.

—*Progrès. Méd.*, November 21, 1891.

Action of Barium Chloride.—Dr. Bardet reported to the Société de Thérapeutique (*Progrès Méd.*) the death of a woman from a dose of 4 grammes of this salt. Barium chloride causes coagulation of the blood, and this occasions embolism, resulting in death.

Lead Poisoning from Wall paper.—A case is reported by Dr. Guyot (*Jour. de Méd.*, November 26, 1891,) in which no other cause could be assigned for the plumbism, except the large proportion of lead compounds found in the wall-paper of the bed room.

Iodoform Injection.—Dr. P. Thierry (*Semaine Méd.*) has found an injection composed of iodoform 10 gm. and expressed oil of almond 60 gm., useful in the acute stage of gonorrhœa. The injection should be retained for at least ten minutes.

Helenin is stated to be a valuable remedy in certain forms of leucorrhœa, being given in daily doses of 0.05 gm. Occasionally colic and diarrhœa are observed, but no other ill effects.—*Jour. de Méd.*

Commercial Peptones.—Van de Velde (Ann. Soc. Méd. d'Anvers, November, 1891,) examined three commercial peptones, viz.: Cornelis, Kemmerich and Denaeyer's, the results being given in tabular form:

	Cornelis.	Kemmerich.	Denaeyer.	
(A) Precipitated by alcohol	gm. 35.886	gm. 47.567	gm. 68.9	Albumin, gelatin, albuminose and peptone.
(B) Soluble in alcohol. .	58.936	43.333	19.43	Extractive principles almost 20 per cent.; decomposition products of gelatin and albumin.
(C) Ash.....	5.178	9.1	11 67	Incineration of A.
(D) Albumose and peptone.....	15.121	peptone absent	61.118	Determined with corrosive sublimate in the solution of A, (gelatin not being precipitated).

Naphthalin as a Tænifuge.—Dr. Mirovitch (*Sem. Méd.*) gives naphthalin in the following mixture to children. Naphthalin, 0.3–0.5 gm.: castor oil, 15 gm.; oil of bergamot, 11 drops. To be given fasting. Adults should take 1 gm. naphthalin, and follow with 30 gm. castor oil. Two days before treatment, pickled, sour and spiced victuals should be taken.

Antipyrine in Infantile Diarrhœa.—Dr. Saint Phillippe (*Jour. Méd. de Bordeaux*) uses solutions of antipyrine in cases of this kind. For children from 1 to 6 months, ½ per cent.; of 1 year 1 per cent., and of 2 or 3 years, 1½ per cent. solution of antipyrine are used, the dose being a coffee-spoonful every two hours.

Exodyne, an American antipyretic, according to an analysis made by Dr. F. Goldman, contains approximately 90 per cent. acetanilide, 5 per cent. sodium salicylate, and 5 per cent. sodium bicarbonate; alkaloids could not be detected in this mixture.

—*Pharm. Zeitung*, 1892, 39.

Quickine, an American antiseptic, contains 1 part carbolic acid and 0 02 parts mercuric chloride in 1,000 parts of a mixture of alcohol and water.

—*Pharm. Zeitung*, 1892, 40.

Thymacetin is a compound related to thymol in the same manner as is phenacetin to phenol; it has the formula $C_6H_2(CH_3)(C_3H_7)(OC_2H_5)NHC_2H_3O$. It forms a white crystalline powder only slightly soluble in water; in doses of 0.25 to 1.0 gm., it generally relieved nervous headaches and occasionally acted as a hypnotic.—*Pharm. Zeitung*, 1892, 40.

The examination of urine for sugar frequently gives negative tests with Fehling's solution in the presence of sugar, because of the presence of interfering substances. Dr. G. Vulpius recommends the following method of applying the test: In two test tubes are placed 5 cc. diluted Fehling's solution, and heated to the boiling point; to one of these is added 1 cc. of the urine, to the other 1 cc. of a mixture of equal volumes of urine and 1 per cent. glucose solution, and the tests again heated to the boiling point. Should neither test show indications of reduction it proves the presence of interfering substances, and other tests for sugar must be applied; if the test with the urine is negative, while the one containing the glucose is positive, it indicates the absence of interfering substances and of sugar in the urine so that no further tests need be applied.

—*Pharm. Post*, 1892, 7.

Hydrargyrum pyroboricum, $H_8B_4O_7$, is used to some extent in the treatment of sores; a 2 per cent. ointment, with vaseline or lanolin as the base, is the preparation generally prescribed; the salt is made by dissolving 76 gm. crystallized borax and 54 gm. mercuric chloride separately in 1,000 gm. distilled water; the solution of borax is added with constant stirring to the mercuric chloride solution, the brown precipitate formed rapidly settles, and is thoroughly washed with water until the washings give no reaction with silver nitrate. It must be dried in the dark, and then constitutes amorphous brown powder, insoluble in water, alcohol or ether.

—V. Tokayer, *Pharm. Post*, 1892, 156.

A Sensitive Test for Albumin in Urine.—The reagent is made by dissolving 8.0 mercuric chloride, 4.0 tartaric acid, 20.0 sugar in 200 0 water; the acid is added to produce a strongly acid solution, and the sugar to increase its density. In applying the test the urine is acidulated with a few drops of strong

acetic acid, filtered and delivered by means of a pipette into a tube half-filled with the reagent so as to form two layers. If the urine contains even less albumin than 1 in 50,000, there is produced immediately or before the lapse of a minute, a distinct white ring at the line of contact; the white ring is especially seen if the tube be held against a black background.—Dr. E. Spiegler, *Oesterr. Ztschr. f. Pharm.*, 1892, 65.

Tannate of Quinine.—DeVrij recommends the following method of preparation: One part pure quinine is intimately mixed by trituration with 4 parts tannic acid, 10 parts water added, dried on a water-bath at a temperature not exceeding 60° C., the residue powdered and again dried. The preparation contains 20 per cent. quinine.
—(*Ned Tijds*) *Oesterr. Ztschr. f. Pharm.*, 1892, 67.

Antipyrine and euphorin, when triturated together liquefy or become pasty, depending upon the proportions; in prescriptions it has been found necessary to dispense the two separately, or to enclose the one prescribed in smaller quantity in a small cachet, and then to enclose this in a larger cachet with the other ingredient. J. Mindes has noticed that if the euphorin be triturated with sugar (which answers better if it be mixed with bicarbonate of soda or powdered liquorice), and this mixed with the antipyrine by using a spoon instead of a pestle, a powder is obtained that can readily be dispensed in a single cachet.
—*Rundschau*, 1892, 3.

Ethyl-bromide.—An examination of an article made by the German Pharmacopœia process, proved that it contained an impurity which had a very irritating effect upon the nose and eyes before it was purified by treatment with sulphuric acid; by fractioning 100 kilos, there was obtained 500 grammes of a difficult volatile substance, which, after purification, yielded a fraction boiling at 150–151° C., and which was identified as *bromoform;* the very irritating substance was later isolated and found to be *mono-brom-acetone.* These impurities originate from an impure alcohol (*denaturized* by addition of pyridine) containing acetone, which latter is acted upon by bromine liberated from the hydrobromic acid employed. If the ethyl-bromide be very thoroughly purified by the action of sulphuric acid it can be kept for a long time, an occasional opening of the bottle not tending to decompose it; cork stoppers, however, should not be used, since this promotes decomposition.
—*Schwz Wochensch. f. Chem. u. Pharm.*, 1892, 3.

Sweetened castor oil is prepared by thoroughly washing with hot water, freshly expressed castor oil, and incorporating sufficient saccharin to give it a sweet taste; it is then flavored by adding small quantities of oil of cinnamon and extract of vanilla. The preparation is stated to keep very well, and to be very agreeable in taste.
—Standke, *Rundschau*, 1892, 111.
—*Amer. Jour. Pharmacy.*

CONTINUOUS ADMINISTRATION OF OXYGEN IN A SEVERE CASE OF BRONCHO-PNEUMONIA FOLLOWING INFLUENZA; RECOVERY.—The patient, a lady, aged fifty seven, was attacked with influenza about the middle of January of the present year, from which she was recovering, when, on February 1, a relapse set in, accompanied by the development of lung symptoms, which gradually increased in severity. On the morning of February 5 her condition was as follows: Slightly cyanosed; temperature, 101.4°; pulse, 108; respiration, 30; urine free from albumen. She was troubled with a most persistent dry cough, unattended with expectoration, which had been kept in check by the inhalation of the chloroform mixture described in *The Lancet* of January 30. Over the lower half of the lungs, both anterior and posterior aspects, abundant sharp large and small crepitations could be heard. In addition, near the inferior angle of the scapulæ on either side the breathing was bronchial in character, especially so on the right. At 9 P. M. the same day the temperature was 100°; pulse, 96; respiration, 38. The following morning the patient was decidedly more cyanosed, the respiration had increased to 40 per minute, and her pulse was weaker. On Sunday, February 7, her condition remained stationary. In the region of the inferior angle of the right scapula the breathing had now become tubular in character and the percussion note dull. A patch of dullness with bronchial breathing was detected over the base of the left lung. On this day we agreed to try the effect of oxygen, and gave it for short periods, with the result of slightly diminishing the cyanosis and improving the pulse. On February 8 (the following morning) the patient was decidedly worse. Her respiration had increased to 50 per minute; pulse, 120; cyanosis much more marked. She was lying in a drowsy, semi-conscious condition, unable to sleep on account of the dyspnœa. She had voided very little urine in the past twenty-four hours, which contained a heavy cloud of albumen. We now decided to push the oxygen and to administer citrate of caffeine hypodermically. A good stream of oxygen was turned on, the mouth piece being held well over the mouth. At the end of twenty minutes the respiration had fallen from 50 to 40, the pulse from 120 to 106, and it had improved in character; the lips had assumed a ruddy in place of a purple tint, and the patient was dozing calmly. The stream of oxygen was now diminished and the nurse instructed to keep a small quantity playing over her mouth during the day. At our evening visit we found that she had rested more calmly throughout the day, and that the cough had apparently been much benefited by the oxygen. Her general condition, however, gave us much anxiety, as the rapid improvement of the morning had not been maintained, and it was clear that the mischief in the lung had in no way abated. The nurse was instructed to continue the oxygen throughout the night. On our arrival on the morning of February 7 we found the patient in a critical condition. She was quite unconscious of her surroundings, and could with difficulty be aroused; the cyanosis had much increased; pulse, 120; respiration, 45. On inquiry, we found that our oxygen cylinder had become exhausted at 3 A. M., and that the patient had been without any for six hours. Two hours and a half later we were enabled to borrow a cylinder in the town, and at once recommenced the administration. She was next seen in the afternoon at 3 P. M., when a distinct improvement was noticed. At our evening visit at 9 P. M. the improvement all round was most marked. The temperature had fallen from 102° to 99°; the pulse from 120 to 104; the respiration from 45 to 38. From this point up to the present time the improvement has been continuous and uninterrupted. The administration of oxygen was kept up throughout Tuesday night (February 9) and Wednesday, after which it was given for short periods, the intervals between the administrations being gradually lengthened as the lungs cleared, so that for the past few days no oxygen has been required. For some days past the patient's temperature has been normal;

pulse about 80; respiration, 27. The lung symptoms all point to a gradual clearing up of the mischief.

Remarks.—We would point out that up to the time we agreed to administer the oxygen continuously the patient's condition had steadily grown worse, and that she was then in a very critical condition. The continuous administration was immediately followed by unmistakable improvement, as shown by the marked fall in the rate of respiration and pulse and improvement in color. The oxygen also enabled her to get more sleep and rest than had been the case for some days. Further than this, it had a marked influence on the very troublesome and intractable cough, so much so that after we had given up the continuous administration the nurses were so certain of the relief likely to follow oxygen inhalation that they gave her a small quantity from time to time to check it. The rapid return of all the bad symptoms on the Tuesday morning, when the patient had been without oxygen for six hours, and the equally marked improvement within a few hours of its readministration, appeared to us a crucial test. The conclusion we formed was that for oxygen to be of value in these cases it should be administered more or less continuously. The oxygen cylinders were supplied daily by Brin.

—Collier and Symonds, *Lancet.*

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.—*Antiseptic Preparations of Catgut and Silk; their Relation to Wound Infection.*—Mr A. Bowlby communicated this paper for Surgeon-Captain W. G. Macpherson. The author first alluded to the observations of various surgeons on the causation of suppuration in wounds by ligatures supposed to be aseptic, and then described his own experiments. These were conducted in three series:

1. Experiments testing the purity of dry material supplied by surgical instrument makers.
2. Experiments testing the purity of material preserved in "antiseptic" solutions.
3. Experiments with specially contaminated silk to test the antiseptic value of such solutions.

Control experiments were also made. A description was then given of the preparation of the silk used for surgical purposes, and it was pointed out that in its manufacture it was subjected to various processes which were well calculated to destroy any organisms it might contain, although this was not the object distinctly in view. The various experiments and their results were then given in detail, and attention was particularly directed to the results obtained with different kinds of material, the object of the writer being to ascertain the most reliable material for ordinary surgical use, and the best means for preserving it in an efficient condition. The following conclusions were then drawn:

1. All so-called "antiseptic" preparations ought to be received with considerable caution; and there is good reason for rejecting such preparations of catgut.
2. Asepsis could, with certainty, be obtained by the cheapest, simplest, and most efficient means of all, namely, by boiling or steaming.
3. Material thus rendered aseptic might be readily kept aseptic in bottles containing no solutions of any kind.
4. The methods of keeping ligature material aseptic by means of solutions, as suggested from time to time by various surgeons were unnecessary.
5. The most aseptic material sold by surgical instrument makers was probably the fine undyed silk twist, untreated by any aseptic material.

The President had never experienced any ill-effects from the use of catgut for ligatures and sutures.

Mr. Howard Marsh mentioned a case in which he had amputated through the thigh. He had used catgut, carbolized and sent direct from the instrument makers, for his deep ligatures. In spite of every care at the time of the operation, within forty-eight hours the wound became foul along the tracks of the sutures and ligatures, and the case finally terminated fatally. In his own mind there was no doubt that this was due to a septic condition of the catgut and of the carbolic preservative fluid. At St. Bartholomew's Hospital there was a profound distrust of material obtained from the instrument makers for ligatures, and no house-surgeon would think of allowing anything to be used which he had not himself prepared. When properly prepared, he thought that there was no particular difference in this respect between silk and catgut, though he himself preferred silk.

Mr. Barwell referred to a paper of his on tying arteries in their continuity, which he had formerly read before that Society, in which he had quoted from a work on the preparation of catgut, how that the intestine was first partly macerated for the removal of everything except the muscular coats, and that the muscular coat, still containing putrefactive organisms, became converted into catgut, and, that without further sterilization, was stored in carbolized oil, which was known not to be a sufficiently powerful germicide for their destruction. He kept his materials for sutures and ligatures in solutions of perchloride of mercury, or of carbolic acid, for long periods before using them.

Mr. Bruce Clarke had, for several years, given up catgut, kept in carbolized oil, for silk rendered aseptic by boiling. He described the form of bottle in use at St. Bartholomew's Hospital for storing ligatures. These bottles were ordinarily kept corked, and were filled with some antiseptic solution. During use the cork was removed, and a rubber cap, which was kept in the antiseptic solution in the bottle, was stretched over its mouth, and the ligatures drawn out through it.

Mr. Stanley Boyd referred to the work that had been done on the Continent on this subject, by which catgut kept in carbolic oil had been for some time condemned. He mentioned Volkmann's case, in which a patient died of anthrax produced by a catgut ligature which had originally been made from the intestines of a sheep which had died of anthrax. He believed it was important that the material used should be non-absorbent, and he used silkworm gut for deep sutures and horsehair for superficial ones, and found both very satisfactory.

Mr. Golding Bird agreed with Mr. Boyd that the texture of the substance used was of great importance. Those substances which were less liable to be digested—such as silkworm gut, silk, or wire—were the best.

Mr. Watson Cheyne agreed with the general feeling which had been expressed as to the unreliability of the materials as they were supplied by the makers, and said that he should never think of using anything which he had not himself rendered aseptic. He had not experienced much suppuration from the use of catgut sutures or ligatures, though they might contain putrefactive bacilli, as Mr. Barwell had stated, which were not destroyed by after-treatment with carbolic oil. It was probable, however, that micrococci rather than bacilli were most injurious to wounds. At King's College Hospital the material as obtained from the makers were loosely reeled and rendered aseptic by immersion in strong carbolic solu-

tion (1 in 20). He agreed with the first three conclusions of the author, but not with the fourth, for, though perhaps unnecessary for experienced bacteriologists who were aware of the many sources of contamination, yet for others he thought that it would be safest for them to use some antiseptic solution in which to keep their sutures and ligatures.

Dr. Heywood Smith thought that silkworm gut was the best material for sutures.

Mr. Bowlby stated that one reason why the author had recommended that ligatures should be preserved in a dry state was that they were then somewhat less liable to be a source of bacterial infection, as it was well established that organisms required some moisture for their development. In the paper, silkworm gut had not been referred to, as it was unsuitable for ligatures on account of its stiffness.

—*Brit. Med. Jour.*

Medical News and Miscellany.

DR. S. MACCUEN SMITH has removed to 1502 Walnut street.

IRRITATION of the urethral orifice in men, and of the vulvæ in women, are frequent signs of diabetes.

TO Dr. Wilson Fox, of London, belongs the honor of first "bringing back to life," a patient whose temperature registered 110° Fahrenheit, by means of the continuous cold bath, in a case of typhoid fever.

THE Chesapeake and Ohio Railway Company offers a special train, free, for the transportation of surgeons attending the approaching meeting of the Association of Railway Surgeons at Old Point Comfort, Va.

PROF. GEO. J. ROMANES has arranged with The Open Court Publishing Company to bring out the American edition of his latest work "Darwin and After Darwin." It will be published simultaneously with the English edition.

THE New York State Legislature has refused to order an investigation of the Keely Institute, located at White Plains. As the newly-arrived Irishman said of the pole-cat, "Let the dirty baiste alone an' he'll stink himself to death."

DR. PAUL GIBIER will probably close the New York Pasteur Institute for want of proper support and encouragement. He claims that some people who are able to do so, refuse to pay legitimate fees for services rendered at the institution.

THE treatment of pneumonia at the University of Pennsylvania Hospital during 1891, was not very successful. Out of eight cases one is recorded improved, five died, and two remained in the wards at the end of the year.

THE Committee appointed at the last meeting of the American Medical Association to consider the best means for promoting the prosperity of the sections of the Association, will hold an adjourned meeting in the Hotel Cadillac, Detroit, Michigan, June 6, at 3 P.M.

Members of the Committee are requested to notify the Chairman of their intention to be present at this meeting.

The Committee would esteem it a favor if each member of the Association would communicate in writing his or her views concerning the best measures for promoting the development of the sections. Such communications may be sent to the Chairman of the Committee.

JOHN S. MARSHALL, M.D., *Ch'n*,
9 Jackson St., Chicago.

DIED OF FUMIGATION.—An unusual cause of death was disclosed at an inquest held a few days since. In a house where had lately been scarlet fever a young woman fumigated a room by burning sulphur in it. Entering the room the next day she was overcome by the fumes, and, although she speedily left the apartment, she died in a few hours.—*Med. Record.*

DRS. C. L. DODGE and J. Chambers are jointly responsible for the paternity of *The Practitioner's Monthly*, a bright little journalistic infant just emerging into the light at Kingston, N. Y. We have always advocated local journals, especially when they represent doctors and are not merely advertisements of supply houses. The price of the *Monthly* is $1.00 per annum, and from the looks of the first number it is well worth the money.

MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA.—The Forty-second Annual Meeting will be held in Harrisburg, on Tuesday, Wednesday, Thursday and Friday, May 17, 18, 19 and 20, 1892, commencing on Tuesday, May 17, at 9 A. M.

Appointments for 1892.—1. Address on Practice of Medicine, Dr. J. H. Musser, Philadelphia.

2. Address on Surgery, Dr. T. D. Davis, Pittsburg.

3. Address on Obstretrics, Dr. H. G. McCormick, Williamsport.

4 Address on Mental Disorders, Dr. J. W. Phillips, Clifton.

5. Address on Otology, Dr. G. R. Rohrer, Lancaster.

6 Address on Hygiene, Mr. A. A. Woods, Erie.

To be Acted Upon.—Report of Committee on Pharmacy, Dr. H. A. Hare, Philadelphia, Chairman.

Report of Committee on Contagious Ophthalmia, Dr. J. A. Lippincott, Pittsburg, Chairman.

Report of Committee on Rush Monument Fund, Dr. W. Murray Weidman, Reading, Chairman.

Chairman Committee of Arrangements.—Dr. Wm. T. Bishop, 211 Pine street, Harrisburg, to whom all applications to read papers at this session should be sent not later than April 1.

WEEKLY Report of Interments in Philadelphia, from March 12 to March 19, 1892:

CAUSES OF DEATH.	Adults.	Minors.	CAUSES OF DEATH.	Adults.	Minors.
Abscess	2		Inanition	2	14
Abortion	1		Influenza	3	
Alcoholism	2		Inflammation, brain	3	10
Apoplexy	22		" bronchi	5	14
Bright's disease	9	1	" kidneys	2	4
Burns and scalds	3	3	" larynx		3
Cancer	6		" lungs	41	28
Casualties	6	1	" heart	1	
Congestion of the brain	2	3	" peritoneum	5	
" " lungs	3		" s. & bowels	7	3
Cirrhosis of the liver	5		" tonsils		1
Consumption of the lungs	48	7	Nerves	1	
" " bowels	1		Insanity	1	
Convulsions	1	16	Intussusception		2
Croup		13	Locomotor ataxia	1	
Cyanosis		8	Marasmus		14
Debility	3	2	Measles	1	1
Diabetes	4		Neuralgia of the heart	1	
Diarrhœa	3	3	Obstruction of the bowels		2
Diphtheria	1	27	Old age	15	
Disease of the brain	1	1	Paralysis	6	
" " heart	30	3	Poisoning		1
" " kidneys		1	Pyæmia	1	
" " liver	1		Septicæmia	1	
Dropsy	3	2	Sore mouth		1
Effusion of the brain		1	Softening of the brain	2	
Erysipelas	1		Suffocation, illuminating gas	1	
Fatty degeneration of the heart	2		Tabes mesenterica		1
Fever, remittent	2		Teething		1
" scarlet		18	Tetanus, puerperal	1	
" typhoid	10	2	Tumor	4	
Gall stone	1		Uræmia	7	1
Hemorrhage		1	Whooping cough		2
Hernia	1				
Homicide	2		Total	288	216

THE Bureau of Health, of Pittsburg, Pa., has brought suit against a number of well-known physicians for failing to report, according to law, the births occurring under their care during the last quarter of 1891.

DR. ALFRED CARPENTER.

THE late Dr. Alfred Carpenter was born at Rothwell, Northamptonshire, May 28, 1825, his father being a medical practitioner of that place, to whom, after finishing his general education at Moulton Grammar School, in Lincolnshire, he was apprenticed at the age of fourteen. Two years later he became a pupil of Mr. Percival, at the Northampton Infirmary, where he remained for three years, returning at the expiration of that period to Rothwell to assist his father. Next he became assistant to Mr. J. Syer Bristowe, at Camberwell, and in 1847 he entered St. Thomas' Hospital. He was the first student who gained a scholarship at that institution, and he also held in succession the posts of Resident Accoucher and House Surgeon. He took the M.R.C.S. and L. S.A. in 1851, and in 1852 became associated in practice with the late Dr. Westall, of Croydon, in which town he has since continued to reside. Dr. Westall having retired in 1860, Mr. Carpenter entered into partnership first with Mr. Whiting, and afterwards with Dr. H. T. Lanchester. Mr. Carpenter graduated M.B. at the University of London in 1855, and M.D. in 1859. In 1860 he became medical attendant upon Dr. Sumner, Archbishop of Canterbury, and he was afterwards medical adviser to Archbishops Longley and Tait. In 1859 Dr. Carpenter was appointed a member of the Croydon Local Board of Health, on which he continued to serve, acting occasionally as chairman, until his election as President of the Council of the British Medical Association in 1879. His connection with the Board of Health was fruitful of results in the interests of sanitary science. He was chiefly instrumental in the extension and successful working of the Croydon Sewage Farm, and the Public Baths at Croydon were likewise established by him. To his exertions also was due the ventilation of the sewers. In 1870 he was appointed a magistrate for Surrey. Dr. Carpenter has filled numerous local offices of importance. He has been President of the Croydon Literary and Scientific Institute, of the Croydon School of Art, of the Microscopical Club and Natural History Society, and of the Croydon Temperance Society. He also took an active part in the establishment of the Croydon Cottage Hospital and of the Croydon Provident Dispensary. In 1878 he was Orator of the Medical Society of London, and took for the subject of his discourse "Alcoholic Drinks." He has also been a member of the Health Committee of the Social Science Association, and Vice-Chairman of the Council of the Sanitary Institute. He was President of the Health Section at the Croydon Sanitary Congress in 1872, and in December, 1881, he presided over the Domestic Health Section at the Brighton Congress. Dr. Carpenter was Examiner in Public Health in the University of London, and a member of the Court of Examiners at the Apothecaries' Company. In 1881 he was nominated a member of the Royal Commission appointed to inquire into the condition of the London hospitals for small-pox and fever cases, and into the means of preventing the spread of infection. Among his literary productions are "A History of Sanitary Progress in Croydon, 1856;" "Hints on House Drainage, 1866;" "Physiological and Mechanical Aspect of Sewage Irrigation;" a course of "Lectures on Preventive Medicine," delivered at St. Thomas' Hospital in 1877; "Alcoholic Drinks as Diet, as Medicines, and as Poisons;" "Influence of Sewer Gas on Public Health;" "Causation of Epidemic Disease;" "Address on Public Medicine," delivered before the British Medical Association at Sheffield in 1876; "The First Principles of Sanitary Work;" a paper on the "Causation of Scarlatina," read before the Society of Medical Officers of Health, 1881; the chapter on "Medical Etiquette," in "Glenn's Manual of Laws Affecting Medical Men;" a paper on "Fogs and London Smoke," read before the Society of Arts in November, 1880, which communication was initiated by a correspondence in *The Times*, and which resulted in the establishment of an exhibition, now held at South Kensington; "Health at School," and a series of articles on "School Surgery," in the "Practical Teacher."

By the death of Dr. Alfred Carpenter, of Croydon, the Association, says the *British Medical Journal*, loses one of its oldest and most attached members of council. As Chairman of Council, as a Vice-Piresident, he took a long and continuous interest in ts work; and only advancing weakness from the encroachments of disease removed him reluctantly from this sphere of useful activity. His public spirit, intelligence and kindness of heart have won for him a high place in the regard of his fellow-members, and his death will be widely mourned.

It is as a sanitary reformer that Dr. Carpenter will be most favorably known. Last year, when elected President of the Southeastern Branch of the British Medical Association, he read a most remarkable paper as his Presidential address. In it he propounded as his motto one that should be taken by every medical man. "*Principiis obsta; sero medicina paratur, cum mala per longas convaluere moras*"—which, for the benefit of those few of our readers who do not read Latin, we will translate thus: "Attack the disorder at its outset; medicine may be too late administered when the disease has gained ground through long delay." What most men would take as a wearisome toil our doctor has made his hobby, and appears to have made himself and others happy in it. From the first year that his name cropped up in Croydon circles as one of the rising disciples of Esculapius, his whole aim and object has been the *prevention* of disease by sanitary precautions. He has not been content to follow in beaten tracks; he has a theory of his own for everything in the shape of sanitary improvement. To him an unventilated drain is little better than an elongated cesspool. He it was that first woke up the authorities to the necessity of ventilating the sewers, and thus getting rid of one frightful source of epidemic disease.